

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO. 86/TT/2015**

**Coram:**

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

**Date of Hearing : 03.02.2016  
Date of Order : 22.02.2016**

**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 under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for installation of 400/220 kV, 1\*315 MVA Transformer at Mapusa (ICT-III) sub-station along with 2 nos. 220 kV line bays under Augmentation of Transformer and Bays in Western Region under 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 Ltd.  
Shakti Bhawan, Rampur  
Jabalpur - 482 008
2. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4th Floor  
Andheri (East), Mumbai - 400 052
3. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,



Race Course Road  
Vadodara - 390 007

4. Electricity Department Govt. Of Goa  
Vidyut Bhawan, Panaji,  
Ner Mandvi Hotel, Goa - 403 001
5. Electricity Department  
Administration Of Daman & Diu  
Daman - 396 210
6. Electricity Department  
Administration Of Dadra Nagar Haveli  
U.T., Silvassa - 396 230
7. Chhattisgarh State Electricity Board  
P.O.Sunder Nagar, Dangania, Raipur  
Chhatisgaarh-492013
8. Madhya Pradesh Audyogik Kendra  
Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road,  
Indore-452 008

.....Respondents

The following were present:

For Petitioner:       Shri Rakesh Prasad, PGCIL  
                              Mohd. Mohsin, PGCIL  
                              Shri A.M. Pavgi, PGCIL  
                              Shri M.M. Mondal, PGCIL  
                              Shri S.S. Raju, PGCIL  
                              Shri S.C. Taneja, PGCIL  
                              Smt. Sangeeta Edwards, PGCIL

For Respondents:   None

### **ORDER**

The petition has been preferred by Power Grid Corporation of India Limited (hereinafter referred to as “the petitioner”) 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



truing up of capital expenditure from the date of commercial operation 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 for installation of 400/220 kV, 1\*315 MVA Transformer at Mapusa (ICT-III) sub-station along with 2 nos. 220 kV line bays under Augmentation of Transformer and Bays 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 administrative approval of the transmission project was accorded by the Board of Directors of the petitioner’s company vide Memorandum No. C/CP/WR-240 dated 4.6.2012 at an estimated cost of ₹6551 lakh, including IDC of ₹227 lakh based on February, 2012 price level.
- b) The transmission asset was put under commercial operation on 1.11.2013, which is within the schedule date of commercial operation. The cost variation was allowed.
- c) The excess initial spares was adjusted in order dated 31.10.2014 in Petition No. 255/TT/2013 by considering the capital cost upto 31.3.2014 as the cut-off date falls beyond the 31.3.2014.
- d) The annual transmission charges for 2009-14 tariff periods for the transmission asset were determined vide order dated 31.10.2014 in Petition No. 255/TT/2013 based on admitted capital cost of the transmission asset and debt:equity as on COD. The estimated additional capital expenditure of ₹607.46 lakh towards



balance and retention payments during 2013-14 for determination of tariff for 2009-14 tariff period. The details of capital cost are as shown below:-

(₹ in lakh)

Total approved cost	Admitted cost as on COD	Admitted additional capital expenditure during 2009-14	Cost as on 31.3.2014
		2013-14	
2292.72	1060.52*	607.46	1667.98

\*Adjusting disallowed excess initial spares of ₹33.25 lakhs.

- e) The annual fixed charges were determined vide order dated 31.10.2014 in Petition No. 255/TT/2013 based the above capital cost and estimated additional capital expenditure for the transmission assets during 2009-14 as given below:-

(₹ in lakh)

Particulars	2013-14 (pro-rata)
Depreciation	27.95
Interest on Loan	31.56
Return on Equity	29.81
Interest on Working Capital	6.57
O & M Expenses	84.55
<b>Total</b>	<b>180.45</b>

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



4. 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 ("the Act"). No comments/objections have been received from the public in response to the notice in newspaper. None of the respondents have filed the reply in the matter. The hearing in this matter was held on 3.2.2016. The petitioner was directed to submit the details of additional capital expenditure, un-discharged liabilities and actual equity infused during 2009-14 and 2014-19 tariff periods which has been submitted by the petitioner through affidavit dated 16.2.2016.

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

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

6. 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”.

7. 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**

8. The petitioner had claimed capital cost of ₹1072.42 lakh as on COD after deducting excess initial spares of ₹21.35 lakh in respect of the transmission asset for the purpose of tariff determination.



9. Clause (1) and (2) of the Regulation 7 of the 2009 Tariff Regulations specifies as follows:-

“(1) Capital cost for a project shall include:-

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

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

10. The admissible capital cost of the transmission asset as on COD for the purpose of computation of tariff for 2009-14 tariff period is worked out in the subsequent paragraph after the treatment of initial spares.

### **Treatment of Initial Spares**

11. The Commission in its previous order dated 31.10.2014 in Petition No. 255/TT/2013 had disallowed the initial spares of ₹33.25 lakh pertaining to sub-station



(including PLCC) corresponding to the capital cost of ₹1093.77 lakh as on COD and ₹1701.23 lakh upto 31.3.2014 as the cut-off date falls beyond 31.3.2014. The Commission in its order dated 31.10.2014 in Petition No. 255/TT/2013 has disallowed the initial spares by considering the capital cost upto 31.3.2014 as the cut off date falls beyond the tariff period. The relevant Para is extracted as under:

*“14..... The cut off date for instant transmission assets falls in the next tariff period i.e. 2014-19. Accordingly, initial spares have been worked out by considering capital cost upto 31.3.2014, **which will be reviewed at the time of truing up on submission of the actual expenditure and then in the next tariff period, considering additional capital expenditure for the year 2014-15.** This issue was dealt in Petition No. 65/TT/2012 and similar approach is adopted in the instant case” (emphasis supplied)*

In view of above, the initial spares has been worked out by considering the additional capital expenditure upto cut-off date which falls beyond 31.3.2014 period.

12. The petitioner has submitted that the actual initial spares are ₹74.95 lakh pertaining to sub-station (including PLCC), corresponding to the capital cost of ₹2165.28 lakh, as on the cut-off date of 31.3.2016 as submitted vide Auditor's Certificate dated 18.2.2015. The petitioner has not claimed additional capitalization during 2015-16 and hence considered as zero for the purpose of arriving at capital cost upto cut-off date. In the instant petition, the petitioner had claimed capital cost of ₹1072.42 lakh as on COD after deducting excess initial spares of ₹21.35 lakh in respect of the transmission asset for the purpose of tariff determination. We have worked out the admissible initial spares by considering capital cost as per Auditor's Certificate in accordance with the 2009 Tariff Regulations.

13. Regulation 8 of the 2009 Tariff Regulations provide for ceiling norms for capitalization of initial spares in respect of sub-station at 2.50%. Accordingly, the initial spares have been allowed as under:-

(₹ in lakh)

Particulars	Formula	Amount
Capital cost as on cut off date	(a)	2165.28
Capital Cost after deducting excess IDC	(b)	2165.28
Initial Spares as per Auditor`s Certificate	(c)	74.95
Proportionate Initial Spares claimed after deducting IDC	$(d) = (c)/(a) * (b)$	74.95
Ceiling limit as per Regulation 8 of 2009 regulations	(e)	2.50%
Initial spares worked out	$(f) = ((b-d)*e)/(100\%-e)$	53.60
Excess initial spares claimed	$(g)=(d)-(f)$	21.35

14. Accordingly, the capital cost as on COD for tariff computation of 2009-14 tariff period is considered as below:-

(₹ in lakh)

Particulars	
Capital cost as on COD	1093.77
Less: Excess initial spares	21.35
Capital cost as on COD considered for tariff determination	<b>1072.42</b>

### **Additional Capital Expenditure**

15. 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”

16. The petitioner has submitted that it has actually incurred an additional capital expenditure of ₹462.33 lakh during 2009-14 towards balance and retention payments for the works completed before the cut-off date, as depicted below:-





(₹ in lakh)

	Capital cost as on COD	Additional capital expenditure		Capital cost as on 31.3.2014
		2013-14	Total	
Approved in order dated 31.10.14	1060.52	607.46	607.46	1667.98
Claimed by the petitioner	1072.42	462.33	462.33	1534.75
Allowed in this order	1072.42	462.33	462.33	1534.75

17. The petitioner has claimed the admissibility of additional capital expenditure before the cut-off date under Regulation 9(1)(i) of 2009 Tariff Regulations. We have considered the submissions of the petitioner with regard to the actual capital expenditure during 2009-14. The above mentioned additional capital expenditure is towards balance and retention payments and the same has been certified by the Auditor vide certificate dated 18.2.2015. Further, the total capital expenditure during 2009-14 is within the limits of the total approved capital expenditure and the total cost as on 31.3.2014 is within the approved cost of the project. Thus, the same is allowed for the purpose of revision of tariff in accordance with Regulation 9(1)(i) and Regulation 6 of the 2009 Tariff Regulations.

### **Debt: Equity**

18. 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.”

19. The debt:equity ratio admitted by the Commission vide order dated 31.10.2014 in Petition No. 255/TT/2013 as on COD was 70:30, for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations. The petitioner was directed to confirm that actual equity infused during 2009-14 tariff period is not less than 30%. In response, the petitioner vide affidavit dated 16.2.2016, has submitted that the actual equity infusion to additional capital expenditure during 2009-14 period is not less than 30%.

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

(₹ in lakh)

Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2009-14	(%)	Total Cost as on 31.3.2014	(%)
Debt	750.69	70.00	323.63	70.00	1074.32	70.00
Equity	321.73	30.00	138.70	30.00	460.42	30.00
<b>Total</b>	<b>1072.42</b>	<b>100.00</b>	<b>462.33</b>	<b>100.00</b>	<b>1534.75</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

21. 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 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.”

22. 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

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

Return on Equity	(₹ in lakh) 2013-14 (pro-rata)
Approved in order dated 31.10.2014	29.81
Claimed by the petitioner	31.95
Allowed in this order	31.95

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 and increase due to actual additional capital expenditure.



### **Interest on Loan (“IoL”)**

24. Regulation 16 of the 2009 Tariff Regulations provide 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”.

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 are placed in Annexure-1. The IoL worked out is as follows:-

<b>Interest on Loan</b>	<b>2013-14 (pro-rata)</b>
Approved in order dated 31.10.2014	31.56
Claimed by the petitioner	21.41
Allowed in this order	21.42

The difference in the approved IoL and that allowed after trueing 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**

25. 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>2013-14 (pro-rata)</b>
Approved in order dated 31.10.2014	27.95
Claimed by the petitioner	27.04
Allowed in this order	27.04

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

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

26. 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>2013-14 (pro-rata)</b>
Approved in order dated 31.10.2014	84.55
Claimed by the petitioner	84.55
Allowed in this order	84.55

### **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>2013-14 (pro-rata)</b>
Approved in order dated 31.10.2014	6.57
Claimed by the petitioner	6.38
Allowed in this order	6.37

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.

### **APPROVED 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 instant transmission assets for the tariff period 2009-14 is summarised below:-

<b>Particulars</b>	<b>(₹ in lakh) 2013-14 (pro-rata)</b>
<b>Depreciation</b>	
Opening Gross Block	1072.42
Additional Capitalisation	462.33
Closing Gross Block	1534.75
Average Gross Block	1303.58
Rate of Depreciation(%)	4.98
Depreciable Value	1173.22
Balance Useful life of the asset	25
Elapsed Life	0
Remaining Depreciable Value	1173.22
Depreciation during the year	27.04
Cumulative depreciation	27.04
<b>Interest on Loan</b>	
Gross Normative Loan	750.69
Cumulative Repayment upto Previous Year	0.00
Net Loan-Opening	750.69
Additions	323.63
Repayment during the year	27.04
Net Loan-Closing	1047.28
Average Loan	898.99
Weighted Average Rate of Interest on Loan (%)	5.7179



Particulars	2013-14 (pro-rata)
Interest on Loan	21.42
<b>Return on Equity</b>	
Opening Equity	321.73
Additions	138.70
Closing Equity	460.42
Average Equity	391.07
Return on Equity (Base Rate )(% )	15.500
MAT rate for the respective year (%)	20.961
Rate of Return on Equity (%)	19.610
Return on Equity	76.69
<b>Interest on Working Capital</b>	
O & M expenses	7.04
Maintenance Spares	12.68
Receivables	28.56
Total	48.28
Rate of Interest(%)	13.20
Interest on Working Capital	6.37
<b>Annual Transmission Charges</b>	
Depreciation	27.04
Interest on Loan	21.42
Return on Equity	31.95
Interest on Working Capital	6.37
O & M Expenses	84.55
<b>Total</b>	<b>171.34</b>

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

29. 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	90.47	104.25	104.25	104.25	104.25
Interest on Loan	76.30	83.57	76.38	68.69	60.45
Return on Equity	108.21	126.13	126.13	126.13	126.13
Interest on Working Capital	16.66	17.90	18.08	18.27	18.46
O & M Expenses	186.93	193.13	199.55	206.16	213.01
<b>Total</b>	<b>478.57</b>	<b>524.98</b>	<b>524.39</b>	<b>523.50</b>	<b>522.30</b>



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
O & M Expenses	15.58	16.09	16.63	17.18	17.75
Maintenance Spares	28.04	28.97	29.93	30.92	31.95
Receivables	79.76	87.50	87.40	87.25	87.05
Total	<b>123.38</b>	<b>132.56</b>	<b>133.96</b>	<b>135.35</b>	<b>136.75</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	16.66	17.90	18.08	18.27	18.46

### **Capital Cost**

31. 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 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.”

“(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;”

32. The capital cost of ₹1534.75 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**

33. The petitioner has claimed additional capital expenditure of ₹609.18 lakh in 2014-15 for 2014-19 tariff period. Accordingly capital cost as on 31.3.2019 works out to be ₹2143.93 lakh.





Capital cost as on 31.3.2014	Additional capital expenditure						Capital cost as on 31.3.2019
	2014-15	2015-16	2016-17	2017-18	2018-19	Total	
1534.75	609.18	-	-	-	-	609.18	2143.93

### **Debt: Equity**

34. Clause (1) and (3) of Regulation 19 of the 2014 Tariff Regulations provides 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.”

35. The normative debt:equity ratio has been considered to work out the tariff in accordance with the 2014 Tariff Regulations as given below:-

(₹ in lakh)

Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-15	(%)	Total Cost as on 31.3.2019	(%)
Debt	1,074.32	70.00	426.43	70.00	1,500.75	70.00
Equity	460.42	30.00	182.75	30.00	643.18	30.00
<b>Total</b>	<b>1534.75</b>	<b>100.00</b>	<b>609.18</b>	<b>100.00</b>	<b>2143.93</b>	<b>100.00</b>



## **Return on Equity (“ROE”)**

36. 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.”

37. 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	460.42	643.18	643.18	643.18	643.18
Additions	182.75	0.00	0.00	0.00	0.00
Closing Equity	643.18	643.18	643.18	643.18	643.18
Average Equity	551.80	643.18	643.18	643.18	643.18
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	108.21	126.13	126.13	126.13	126.13



### **Interest on Loan (“IoL”)**

38. 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.”

39. 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. 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	1074.32	1500.75	1500.75	1500.75	1500.75
Cumulative Repayment upto Previous Year	27.04	117.50	221.75	326.01	430.26
Net Loan-Opening	1047.28	1383.25	1279.00	1174.74	1070.49
Additions	426.43	0.00	0.00	0.00	0.00
Repayment during the year	90.46	104.25	104.25	104.25	104.25
Net Loan-Closing	1383.25	1279.00	1174.74	1070.49	966.24
Average Loan	1215.27	1331.12	1226.87	1122.62	1018.37
Weighted Average Rate of Interest on Loan (%)	6.2799	6.2799	6.2274	6.1207	5.9374



Interest on Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan	76.32	83.59	76.40	68.71	60.46

### **Depreciation**

40. 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."s

41. 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 transmissions asset will be completing 12 beyond 2014-19 period; hence depreciation up to 2014-19 tariff period has been calculated annually based on Straight Line Method and at rates specified in Appendix-II of the 2014 Tariff Regulations. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-



(₹ in lakh)

<b>Depreciation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	1534.75	2143.93	2143.93	2143.93	2143.93
Additional Capitalisation	609.18	0.00	0.00	0.00	0.00
Closing Gross Block	2143.93	2143.93	2143.93	2143.93	2143.93
Average Gross Block	1839.34	2143.93	2143.93	2143.93	2143.93
Rate of Depreciation (%)	4.92	4.86	4.86	4.86	4.86
Depreciable Value	1863.45	2203.67	1929.54	1929.54	1929.54
Balance Useful life of the asset	24	23	22	21	20
Elapsed Life	1	2	3	4	5
Remaining Depreciable Value	1628.37	1812.03	1707.78	1603.53	1499.28
Depreciation during the year	90.46	104.25	104.25	104.25	104.25
Depreciation upto previous year	117.50	221.75	326.01	430.26	534.51
Cumulative depreciation	1534.75	2143.93	2143.93	2143.93	2143.93

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

42. Clause 4(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:-

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>220 kV Bays:</b>					
No. of Bays	3	3	3	3	3
Norms (₹ lakh/Bay)	42.21	43.61	45.06	46.55	48.10
<b>400 kV Bays:</b>					
No. of Bays	1	1	1	1	1
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>186.93</b>	<b>193.13</b>	<b>199.55</b>	<b>206.16</b>	<b>213.01</b>

43. 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”)**

44. 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;”

45. 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%.

46. 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	15.57	16.09	16.62	17.17	17.74
Maintenance Spares	28.04	28.97	29.93	30.92	31.95
Receivables	79.76	87.50	87.40	87.25	87.05
Total	123.37	132.56	133.96	135.35	136.75
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	16.66	17.90	18.08	18.27	18.46

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

47. 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	1534.75	2143.93	2143.93	2143.93	2143.93
Additional Capitalisation	609.18	0.00	0.00	0.00	0.00
Closing Gross Block	2143.93	2143.93	2143.93	2143.93	2143.93
Average Gross Block	1839.34	2143.93	2143.93	2143.93	2143.93
Rate of Depreciation(%)	4.92	4.86	4.86	4.86	4.86
Depreciable Value	1863.45	2203.67	1929.54	1929.54	1929.54
Balance Useful life of the asset	24	23	22	21	20
Elapsed Life	1	2	3	4	5
Remaining Depreciable Value	1628.37	1812.03	1707.78	1603.53	1499.28
Depreciation during the year	90.46	104.25	104.25	104.25	104.25
Cumulative depreciation	117.50	221.75	326.01	430.26	534.51
<b>Interest on Loan</b>					
Gross Normative Loan	1074.32	1500.75	1500.75	1500.75	1500.75
Cumulative Repayment upto Previous Year	27.04	117.50	221.75	326.01	430.26
Net Loan-Opening	1047.28	1383.25	1279.00	1174.74	1070.49
Additions	426.43	0.00	0.00	0.00	0.00
Repayment during the year	90.46	104.25	104.25	104.25	104.25
Net Loan-Closing	1383.25	1279.00	1174.74	1070.49	966.24
Average Loan	1215.27	1331.12	1226.87	1122.62	1018.37
Weighted Average Rate of Interest on Loan (%)	6.2799	6.2799	6.2274	6.1207	5.9374



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Interest on Loan	76.32	83.59	76.40	68.71	60.46
<b>Return on Equity</b>					
Opening Equity	460.42	643.18	643.18	643.18	643.18
Additions	182.75	0.00	0.00	0.00	0.00
Closing Equity	643.18	643.18	643.18	643.18	643.18
Average Equity	551.80	643.18	643.18	643.18	643.18
Return on Equity (Base Rate )(%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	108.21	126.13	126.13	126.13	126.13
<b>Interest on Working Capital</b>					
O & M expenses	15.57	16.09	16.62	17.17	17.74
Maintenance Spares	28.04	28.97	29.93	30.92	31.95
Receivables	79.76	87.50	87.40	87.25	87.05
Total	123.37	132.56	133.96	135.35	136.75
Rate of Interest(%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	16.66	17.90	18.08	18.27	18.46
<b>Annual Transmission Charges</b>					
Depreciation	90.46	104.25	104.25	104.25	104.25
Interest on Loan	76.32	83.59	76.40	68.71	60.46
Return on Equity	108.21	126.13	126.13	126.13	126.13
Interest on Working Capital	16.66	17.90	18.08	18.27	18.46
O & M Expenses	186.93	193.13	199.55	206.16	213.01
<b>Total</b>	<b>478.58</b>	<b>525.00</b>	<b>524.42</b>	<b>523.53</b>	<b>522.32</b>

48. 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. However, the COD of the asset is after 2009, hence the claim of the petitioner is not maintainable.

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

49. 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**

50. 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**

51. 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**

52. 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.

53. This order disposes of Petition No.86/TT/2015.

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

**Sd/-  
(A.S. Bakshi)  
Member**



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2009-14)**

(₹ in lakh)

Particulars	Interst Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.03.2012)-ADDCAP FOR 2013-2014 Addcap-	10.24	0.00	214.30	214.30
SBI (21.03.2012)-DOCO-	10.24	34.76	0.00	34.76
BOND - XLI-DOCO DRAWL ON 01-NOV-2013-	8.85	100.00	0.00	100.00
ADB VI-DOCO-62.36	1.79	415.94	0.00	415.94
BOND - XLIII-ADDCAP FOR 2013-2014 Addcap-	7.93	0.00	109.33	109.33
BOND - XLIII-DOCO-	7.93	50.00	0.00	50.00
BOND - XLIV-DOCO-	8.70	150.00	0.00	150.00
<b>Total</b>		<b>750.70</b>	<b>323.63</b>	<b>1074.33</b>

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

(₹ in lakh)

Particulars	2013-14 (pro-rata)
Gross Opening Loan	750.70
Cumulative Repayments of Loans up to Previous Year	0.00
Net Loans Opening	<b>750.70</b>
Add: Drawl(s) during the Year	323.63
Less: Repayments during the year	0.00
Net Closing Loan	<b>1074.33</b>
Average Net Loan	912.52
Rate of Interest on Loan (%)*	5.7179
Interest on Loan	<b>52.18</b>

\*Petitioner, in the tariff computation submitted with the petition, has considered rate of interest on loan upto two decimal points



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)**

(₹ in lakh)

Particulars	Interst Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
				(Rs in lakh)
SBI (21.03.2012)-ADDCAP FOR 2013-2014 Addcap-	10.25	214.30	0.00	214.30
SBI (21.03.2012)-DOCO-	10.25	34.76	0.00	34.76
BOND - XLI-DOCO DRAWL ON 01-NOV-2013-	8.85	100.00	0.00	100.00
ADB VI-DOCO-62.36	1.78	415.94	0.00	415.94
BOND - XLIII-ADDCAP FOR 2013-2014 Addcap-	7.93	109.33	0.00	109.33
BOND - XLIII-DOCO-	7.93	50.00	0.00	50.00
BOND - XLIV-DOCO-	8.70	150.00	0.00	150.00
<b>Total</b>		<b>1074.33</b>	<b>0.00</b>	<b>1074.33</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	1074.33	1074.33	1074.33	1074.33	1074.33
Cumulative Repayments of Loans up to Previous Year	0.00	0.00	0.00	30.97	82.28
Net Loans Opening	<b>1074.33</b>	<b>1074.33</b>	<b>1074.33</b>	<b>1043.36</b>	<b>992.05</b>
Add: Drawl(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments during the year	0.00	0.00	30.97	51.31	102.03
Net Closing Loan	<b>1074.33</b>	<b>1074.33</b>	<b>1043.36</b>	<b>992.05</b>	<b>890.02</b>
Average Net Loan	1074.33	1074.33	1058.85	1017.71	941.04
Rate of Interest on Loan (%)*	6.2799	6.2799	6.2274	6.1207	5.9374
<b>Interest on Loan</b>	<b>67.47</b>	<b>67.47</b>	<b>65.94</b>	<b>62.29</b>	<b>55.87</b>

\*Petitioner, in the tariff computation submitted with the petition, has considered rate of interest on loan upto two decimal points.

