

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 503/TT/2014**

**Coram:**

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

**Date of Hearing : 03.02.2016  
Date of Order : 17.02.2016**

**In the matter of:**

Truing up of transmission tariff of 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 400/220 kV, 1x315 MVA Auto Transformer (ICT-III), at 400/220 kV Sub-station at Vapi under installation of 1x315 MVA, 400/220 kV Transformer at Vapi (POWERGRID) Sub-station 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 Limited  
'SAUDAMINI', Plot No-2,  
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

**Versus**

1. Madhya Pradesh Power Trading Company Limited  
Shakti Bhawan, Rampur  
Jabalpur –482 008
2. Electricity Department  
Administration of Daman & Diu  
Daman – 396 210
3. Gujarat Urja Vikas Nigam Limited  
Sardar Patel Vidyut Bhawan,  
Race Course Road, Vadodara – 390 007



4. Electricity Department  
Government of Goa  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, Goa – 403 001
5. Electricity Department  
Administration of Dadra Nagar Haveli,  
U.T., Silvassa – 396 230
6. Maharashtra State Electricity Distribution Co. Limited  
5<sup>th</sup> Floor, Prakashgad, Plot no. 9,  
Anant Kanekar Marg, Bandra (East),  
Mumbai – 400 051
7. Chhattisgarh State Electricity Board  
P.O. Sunder Nagar, Dangania, Raipur  
Chhattisgarh – 492 013
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 M.M. Mondal, PGCIL  
   Shri Mohd. Mohsin, PGCIL  
   Shri A.M. Pavgi, PGCIL  
   Shri Rakesh Prasad, PGCIL

For Respondent:                      None

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Limited (“the petitioner”) for truing up of capital expenditure 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 for the 400/220 kV, 1x315 MVA Auto Transformer (ICT-III) at 400/220 kV Sub-station at Vapi (hereinafter referred as “transmission asset”) under investment scheme of installation of 1x315 MVA, 400/220 kV Transformer at Vapi (POWERGRID) Sub-station in Western Region..

2. The respondents are electricity departments and distribution licensees, who are procuring transmission service from the petitioner, mainly beneficiaries of the Western 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 the 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 reply to the petition. The hearing in the matter was held on 3.2.2016. In response to letter dated 30.1.2016, the petitioner has submitted its replies vide affidavit dated 11.2.2016. 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 installation of 1x315 MVA, 400/220 kV Transformer at Vapi (POWERGRID) Sub-station in Western Region was accorded by Board of Directors of the petitioner company vide letter dated 27.9.2011 at an estimated cost of ₹2118 lakh, which included IDC of ₹57 lakh (based on 2<sup>nd</sup> quarter, 2011 price level).

(b) The date of commercial operation of the transmission asset is 1.3.2013.

(c) The tariff for the 2009-14 period was allowed vide order dated 3.7.2014 in Petition No. 49/TT/2013 in accordance with the 2009 Tariff Regulations.

The tariff allowed for the tariff period 2009-14 is as under:-

Particulars	(₹ in lakh)	
	2012-13 (Pro-rata)	2013-14
Depreciation	5.86	83.52
Interest on Loan	6.89	93.90
Return on equity	5.82	82.96
Interest on Working Capital	0.91	12.14
O & M Expenses	8.77	111.28
<b>Total</b>	<b>28.25</b>	<b>383.81</b>

(d) The Commission, vide order dated 3.7.2014 in Petition No. 49/TT/2013, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹1281.98 lakh as on 1.3.2013.

(e) 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.



## **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 adjusted capital cost of ₹1294.76 lakh as on 1.3.2013 for the purpose of tariff.

7. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides 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 funds 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.”

8. The petitioner has submitted the Auditor's Certificate certifying the capital cost and additional capitalization claimed.

9. The petitioner has claimed actual capital cost of ₹1294.76 lakh as on COD as against the capital cost of ₹1281.98 lakh admitted by the Commission after deducting the IDC and IEDC of ₹2.27 lakh and excess initial spares of ₹54.39 lakh. The petitioner has submitted the Auditor's Certificate in support of



actual capital cost as on COD. As the variation in actual capital cost as on COD with respect to cost approved by the Commission as on COD is marginal, we have considered the actual capital cost as on COD.

### **IDC and IEDC**

9. The instant assets were scheduled to be commissioned on 1.1.2013 and they were commissioned on 1.3.2013, after a time over-run of 2 months. The Commission after examining the reasons of time over-run, had disallowed time over-run of 2 months period in commissioning of the assets and accordingly IDC and IEDC for the two months was disallowed. In the instant petition, the petitioner has claimed the amount of IDC and IEDC based on actual audited expenditure and submitted the same vide Auditor Certificate dated 20.11.2014. Accordingly, the IDC and IEDC disallowed has been revised.

10. Details of IDC disallowed are as shown below:-

(₹ in lakh)

Details of IDC and IEDC claimed		
Capital Cost as per Auditor Certificate submitted 20.11.2014	IEDC	IDC
Expenditure from 1.4.2012 to 28.2.2013 (upto COD )	8.30	17.35
Total	25.65	
Details of IDC and IEDC disallowed		
Disallowed IDC and IEDC for 2 months	1.51	3.15
Total	4.66	



## Initial Spares

11. Regulation 8 of the 2009 Tariff Regulations provides that initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:-

“Transmission line:	0.75%
Transmission sub-station	2.50%
Series compensation devices& HVDC Station:	3.50%”

12. The petitioner has deducted excess initial spares of ₹54.39 lakh from the capital cost as on COD. The initial spares worked out and allowed in accordance with Regulation 8 of the 2009 Tariff Regulations is shown in table below:-

(₹ in lakh)		
Particulars	Formula	Amount
Capital cost as on cut-off date or upto 31.3.2014 whichever is earlier	(a)	1823.39
Capital cost after deducting excess IDC/IEDC	(b)	1818.73
Initial Spares claimed	(c)	98.68
Proportionate Initial Spares claimed after deducting IDC	$(d) = (c)/(a) * (b)$	98.43
Ceiling limit as per Regulation 8 of 2009 regulations	(e)	2.50%
Initial spares worked out	$(f) = ((b-d)*e)/(100\%-e)$	44.10
Excess initial spares claimed	$(g)=(d)-(f)$	54.58

13. The actual capital cost of ₹1292.18 lakh excluding excess initial spares of ₹54.58 lakh and disallowed IDC and IEDC of ₹4.66 lakh has been considered to work out the trued up tariff for the tariff period 2009-14.



### **Additional Capital Expenditure**

14. The petitioner has claimed additional capitalization for expenditure incurred before cut-off date against the transmission asset under Clause (1) (i) of Regulation 9 of the 2009 Tariff Regulations.

15. Clause 1 of Regulation 9 of the 2009 Tariff Regulations provides as follows:-

“The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities;”

16. The Commission vide its order dated 3.7.2014 in Petition No. 49/TT/2013 has approved the additional capitalization of ₹99.97 lakh and ₹399.97 lakh during 2012-13 and 2013-14, respectively, towards balance and retention payments for works executed within cut-off date under Clause 1(i) of Regulation 9 of the 2009 Tariff Regulations. Against this, the petitioner has claimed additional capitalization of ₹15.16 lakh and ₹443.02 lakh in 2012-13 and 2013-14, respectively, towards balance and retention payments for works executed within cut-off date.

17. The petitioner has also submitted the Auditor's Certificate to verify the actual additional capital expenditure incurred in 2009-14.

18. We have considered the submissions made by the petitioner. As the actual additional capitalization claimed by the petitioner is lower than the





additional capitalization approved, the same is allowed under Clause (1)(i) of Regulation 9 of the 2009 Tariff Regulations.

**(₹ in lakh)**

Particulars	Admitted capital cost as on COD	Additional capitalization		Total additional capitalization	Total capital cost including additional capitalization
		2012-13	2013-14		
Approved in order dated 3.7.2014	1281.98	99.97	399.97	499.94	1781.92
Approved in this order	1292.18	15.16	443.02	458.18	1750.36

### **Debt: Equity**

19. Clause 1 of Regulation 12 of the 2009 Tariff Regulations provides that:-

“For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan: Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff: Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.”

20. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30 as on 1.3.2013, as admitted by the Commission in its order dated 3.7.2014 in Petition No. 49/TT/2013, as opening debt:equity. As regards additional capitalization, the petitioner has submitted debt:equity ratio of 70:30 for 2012-13 and 88.28:11.72 for 2013-14. The petitioner was directed vide letter dated 30.1.2016 to provide an undertaking on affidavit that actual equity infused for the additional capitalisation during the 2009-14 tariff period is not less than 30% for the given transmission asset. In this regard, the petitioner vide affidavit



dated 11.2.2016 submitted the actual equity infused during the tariff period 2009-

14. The details submitted by the petitioner are as follows:-

Particulars	Cash Expenditure/Add cap during the year	Actual Debt		Actual Equity	
		Amount	%	Amount	%
Additional capitalization 2012-13	15.16	10.61	70.00	4.55	30.00
Additional capitalization 2013-14	443.02	391.09	88.28	51.93	11.72

21. The admitted debt:equity ratio of 70:30 as on 1.3.2013 has been considered as opening debt:equity ratio for the purpose of truing up of the approved tariff of 2009-14 tariff period, as given under:-

Funding	Amount	(%)
Debt	904.53	70.00
Equity	387.66	30.00
Total	1292.18	100.00

22. Further, debt:equity ratio as submitted by the petitioner has been considered for additional capitalization for the tariff period 2009-14. The details of the debt:equity including additional capitalization as on 31.3.2014 is as follows:-

Particulars	Amount (in ₹ lakh)	(%)
Debt	1306.24	74.62
Equity	444.13	25.38
<b>Total</b>	<b>1750.36</b>	<b>100.00</b>

### **Interest on Loan ("IOL")**

23. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan.



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

25. 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:-

Particulars	₹ in lakh	
	2012-13 (Pro-rata)	2013-14
Approved vide order dated 3.7.2014	6.89	93.90
As claimed by the petitioner	6.71	96.14
Allowed after trued up	6.70	95.99

### **Return on Equity ("ROE")**

26. Clauses (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 trued up in accordance with Regulation 6 of these regulations.”

27. For truing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

Particulars	MAT Rate (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

28. Accordingly, the ROE as trued up is as shown in the table below:-

**(₹ in lakh)**

Particulars	2012-13 (Pro-rata)	2013-14
Approved vide order dated 3.7.2014	5.82	82.96
As claimed by the petitioner	6.31	82.16
Allowed after trued up	6.30	82.00

29. The return on equity allowed in the instant order is more than the return on equity allowed vide order dated 3.7.2014 during 2012-13 due to increase in equity on account of variation in capital cost as on COD and increase in the



applicable MAT rate for the purpose of grossing up of base rate of return on equity.

### **Depreciation**

30. 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."

31. Depreciation was worked out in order dated 3.7.2014 in Petition No. 49/TT/2013 in accordance with Regulation 17 of the 2009 Tariff Regulations considering useful life of the asset as 25 years. Accordingly, the same approach has been continued in the instant order.

32. The details of depreciation admitted and worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on as under:-

<b>Particulars</b>	<b>(₹ in lakh)</b>	
	<b>2012-13 (Pro-rata)</b>	<b>2013-14</b>
Approved vide order dated 3.7.2014	5.86	83.52
As claimed by the petitioner	5.73	80.86
Allowed after trued up	5.72	80.72



33. The depreciation allowed in the instant order is less than the depreciation allowed vide order dated 3.7.2014, on account of variation in additional capitalisation.

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

34. The petitioner has computed O&M Expenses for the assets mentioned in the petition, in accordance with the O&M norms for 220 kV and 400 kV bays specified in Regulation 19(g) of the 2009 Tariff Regulations. The petitioner has claimed O&M Expenses for 1 bay of 400 kV level and 1 bay of 220 kV level. Accordingly, the O&M Expenses have been worked out as given below:-

<b>Particulars</b>		<b>2012-13 (Pro-rata)</b>	<b>2013-14</b>
Actual	400 kV Bays	1	1
	220 kV Bays	1	1
Norms as per Regulation	400 kV Bays	5.16	65.46
	220 kV Bays	3.61	45.82
<b>Total (in ₹ Lakh)</b>		<b>8.77</b>	<b>111.28</b>

35. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 3.7.2014 in Petition No. 49/TT/2013. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-

<b>Particulars</b>	<b>(₹ in lakh)</b>	
	<b>2012-13 (Pro rata)</b>	<b>2013-14</b>
Approved vide order dated 3.7.2014	8.77	111.28
As claimed by the petitioner	8.77	111.28
Allowed after trued up	8.77	111.28



**Interest on working capital(“IWC”)**

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

37. The petitioner has submitted that the rate of interest on working capital has been considered as 13.50% 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.

38. The Commission, vide order dated 3.7.2014 in Petition No. 49/TT/2013, has approved rate of interest on working capital as 13.50% as applicable for 2009-14. 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 hence interest on working capital has been computed on normative basis considering interest rate of 13.50%.

39. The IWC trued up is as under:-

**(₹ in lakh)**

<b>Particulars</b>	<b>2012-13 (Pro-rata)</b>	<b>2013-14</b>
Maintenance Spares	1.32	16.69
O & M expenses	0.73	9.27
Receivables	4.73	63.68
Total	6.78	89.65
Rate of Interest (%)	13.50	13.50
Interest	0.92	12.10



Particulars	(₹ in lakh)	
	2012-13 (Pro-rata)	2013-14
Approved vide order dated 3.7.2014	0.91	12.14
As claimed by the petitioner	0.92	12.11
Allowed after trued up	0.92	12.10

40. The variation in IWC is on account of increase in receivables due to variation in Interest, depreciation and ROE on account of variation in capital cost as on COD, additional capitalisation and applicable MAT rate during 2009-14 tariff period.

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

41. 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:-

Particulars	(₹ in lakh)	
	2012-13 (Pro-rata)	2013-14
<b>Gross Block</b>		
Opening Gross Block	1292.18	1307.34
Additional Capitalization	15.16	443.02
Closing Gross block	1307.34	1750.36
Average Gross block	1299.76	1528.85
<b>Depreciation</b>		
Rate of Depreciation (%)	5.280	5.280
Depreciable Value	1169.79	1375.97
Elapsed Life of the assets at beginning of the year	0	1
Weighted Balance Useful life of the assets	25	24
Remaining Depreciable Value	1169.79	1370.25





Particulars	2012-13 (Pro-rata)	2013-14
Depreciation	5.72	80.72
<b>Interest on Loan</b>		
Gross Normative Loan	904.53	915.14
Cumulative Repayment upto Previous Year	0.00	5.72
Net Loan-Opening	904.53	909.42
Additions	10.61	391.10
Repayment during the year	5.72	80.72
Net Loan-Closing	909.42	1219.80
Average Loan	906.98	1064.61
Weighted Average Rate of Interest on Loan (%)	8.8629	9.0161
Interest	6.70	95.99
<b>Return on Equity</b>		
Opening Equity	387.66	392.20
Additions	4.55	51.92
Closing Equity	392.20	444.13
Average Equity	389.93	418.16
Return on Equity (Base Rate) (%)	15.50	15.50
MAT rate for the respective year (%)	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.377	19.610
Return on Equity (Pre Tax)	6.30	82.00
<b>Interest on Working Capital</b>		
Maintenance Spares	1.32	16.69
O & M Expenses	0.73	9.27
Receivables	4.73	63.68
Total	6.78	89.65
Interest	0.92	12.10
<b>Annual Transmission Charges</b>		
Depreciation	5.72	80.72



Particulars	2012-13 (Pro-rata)	2013-14
Interest on Loan	6.70	95.99
Return on Equity	6.30	82.00
Interest on Working Capital	0.92	12.10
O & M Expenses	8.77	111.28
<b>Total</b>	<b>28.40</b>	<b>382.09</b>

### **DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19**

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	92.92	93.28	93.28	93.28	93.28
Interest on Loan	107.57	99.52	90.95	82.32	73.70
Return on Equity	87.65	88.06	88.06	88.06	88.06
Interest on Working Capital	12.30	12.32	12.31	12.31	12.32
O&M Expenses	102.51	105.91	109.43	113.06	116.81
<b>Total</b>	<b>402.95</b>	<b>399.09</b>	<b>394.03</b>	<b>389.03</b>	<b>384.17</b>

43. 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	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	67.16	66.52	65.67	64.84	64.03
Total	91.08	91.24	91.20	91.22	91.28
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>12.30</b>	<b>12.32</b>	<b>12.31</b>	<b>12.31</b>	<b>12.32</b>



## **Capital Cost**

44. Clause (1) & (3) of Regulation 9 of the 2014 Tariff Regulations specify 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.”

45. The petitioner has claimed capital expenditure of ₹1752.94 lakh as on 31.3.2014. Further, the petitioner has also projected additional capital expenditure of ₹13.79 lakh during the tariff period 2014-19. The trued up capital cost of ₹1750.36 lakh as on 31.3.2014 is considered to workout tariff for 2014-19 tariff period.

## **Additional Capital Expenditure**

46. Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

“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;”



47. The petitioner has claimed additional capitalization of ₹13.79 lakh in 2014-15. The additional capitalization has been claimed towards balance and retention payments under Clause 1 of Regulation 14 of the 2014 Tariff Regulations. The petitioner was directed vide its letter dated 30.1.2016 to submit the amount of balance and retention payment yet to be made along with the details of contract for which the payment has been retained. In response, the petitioner vide affidavit dated 11.2.2016 has submitted that entire amount of additional capitalization upto 2013-14 has been released. Further, ₹13.79 lakh projected as additional capitalization in the Auditor's Certificate pertains to the balance and retention payment to be made to M/s A2Z Maintenance Engineering Services.

48. We have considered the petitioner's submission and additional capitalisation of ₹13.79 lakh in 2014-15 is allowed in accordance with Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations.

Particulars	Capital Cost as on 31.3.2014	Projected Additional Capital Expenditure						Capital Cost as on 31.3.2019
		14-15	15-16	16-17	17-18	18-19	Total	
Approved	1750.36	13.79	0.00	0.00	0.00	0.00	13.79	1764.15

### **Debt:EquityRatio**

49. 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.”

50. The petitioner has considered debt:equity ratio as 74.63:25.37 as on 31.3.2014. The debt:equity ratio of 74.63:25.37 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. The details of the debt:equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

Particulars	Amount (₹ in lakh)	(%)
Debt	1306.24	74.63
Equity	444.13	25.37
<b>Total</b>	<b>1750.36</b>	<b>100.00</b>

51. Further, normative debt:equity ratio of 70:30 has been proposed for additional capitalization for tariff period 2014-19. The details of the debt:equity including additional capitalization is as follows:-

Particulars	Amount (₹ in lakh)	(%)
Debt	1315.89	74.59
Equity	448.26	25.41
<b>Total</b>	<b>1764.15</b>	<b>100.00</b>

### **Interest on Loan (“IOL”)**

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

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

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:



Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

53. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2014.

54. 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	1306.24	1315.89	1315.89	1315.89	1315.89
Cumulative Repayment upto Previous Year	86.44	179.23	272.37	365.52	458.67
Net Loan-Opening	1219.80	1136.67	1043.52	950.37	857.22
Additions during the year	9.65	0.00	0.00	0.00	0.00
Repayment during the year	92.78	93.15	93.15	93.15	93.15
Net Loan-Closing	1136.67	1043.52	950.37	857.22	764.08
Average Loan	1178.23	1090.09	996.95	903.80	810.65
Rate of Interest (%)	9.1172	9.1172	9.1109	9.0965	9.0799
Interest	<b>107.42</b>	<b>99.39</b>	<b>90.83</b>	<b>82.21</b>	<b>73.61</b>

### **Return on Equity(“ROE”)**

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

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



**“25. Tax on Return on Equity:**

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

56. 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.

57. 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.

58. 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 worked out is given below:-

	(₹ in lakh)				
Return on Equity	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	444.13	448.26	448.26	448.26	448.26
Additional Capitalisation	4.14	0.00	0.00	0.00	0.00
Closing Equity	448.26	448.26	448.26	448.26	448.26
Average Equity	446.19	448.26	448.26	448.26	448.26
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)	87.50	87.90	87.90	87.90	87.90

### **Depreciation**

59. 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.”

60. The petitioner has computed depreciation considering capital expenditure of ₹1752.94 lakh as on 31.3.2014 and projected additional capitalization of ₹13.79 lakh for the tariff period 2014-19.

61. We have considered approved capital expenditure of ₹1750.36 lakh as on 31.3.2014. 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	1750.36	1764.15	1764.15	1764.15	1764.15
Additional Capitalisation	13.79	0.00	0.00	0.00	0.00
Gross block at the end of the year	1764.15	1764.15	1764.15	1764.15	1764.15
Average Gross Block	1757.26	1764.15	1764.15	1764.15	1764.15
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	1581.53	1587.74	1587.74	1587.74	1587.74
Elapsed Life of the assets at beginning of the year (in Years)	2	3	4	5	6
Weighted Balance Useful life of the assets (in Years)	23	22	21	20	19



Remaining Depreciable Value	1495.09	1408.51	1315.37	1222.22	1129.07
Depreciation	<b>92.78</b>	<b>93.15</b>	<b>93.15</b>	<b>93.15</b>	<b>93.15</b>

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

62. 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:-

Particulars		(₹ in lakh)				
		2014-15	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV Bays	1	1	1	1	1
	220 kV Bays	1	1	1	1	1
Norms as per Regulation	400 kV Bays	60.3	62.3	64.37	66.51	68.71
	220 kV Bays	42.21	43.61	45.06	46.55	48.1
<b>Total</b>		<b>102.51</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

63. The petitioner has 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.

64. 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.

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses Allowed</b>	<b>102.51</b>	<b>105.91</b>	<b>109.43</b>	<b>113.06</b>	<b>116.81</b>

### **Interest on Working Capital ("IWC")**

66. 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;"

67. 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%.

68. 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 allowed is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	67.08	66.44	65.60	64.77	63.96
Total	91.00	91.15	91.14	91.15	91.22
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	12.29	12.31	12.30	12.31	12.31

### **Annual Transmission Charges**

69. 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
<b>Gross Block</b>					
Opening Gross Block	1750.36	1764.15	1764.15	1764.15	1764.15
Additional Capitalisation	13.79	0.00	0.00	0.00	0.00
Closing Gross Block	1764.15	1764.15	1764.15	1764.15	1764.15
Average Gross Block	1757.26	1764.15	1764.15	1764.15	1764.15
<b>Depreciation</b>					
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	1581.53	1587.74	1587.74	1587.74	1587.74
Elapsed Life of the assets at beginning of the year	2	3	4	5	6
Weighted Balance Useful life of the assets	23	22	21	20	19
Remaining Depreciable Value	1495.09	1408.51	1315.37	1222.22	1129.07



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	92.78	93.15	93.15	93.15	93.15
<b>Interest on Loan</b>					
Gross Normative Loan	1306.24	1315.89	1315.89	1315.89	1315.89
Cumulative Repayment upto Previous Year	86.44	179.23	272.37	365.52	458.67
Net Loan-Opening	1219.80	1136.67	1043.52	950.37	857.22
Additions	9.65	0.00	0.00	0.00	0.00
Repayment during the year	92.78	93.15	93.15	93.15	93.15
Net Loan-Closing	1136.67	1043.52	950.37	857.22	764.08
Average Loan	1178.23	1090.09	996.95	903.80	810.65
Weighted Average Rate of Interest on Loan (%)	9.1172	9.1172	9.1109	9.0965	9.0799
Interest	107.42	99.39	90.83	82.21	73.61
<b>Return on Equity</b>					
Opening Equity	444.13	448.26	448.26	448.26	448.26
Additions	4.14	0.00	0.00	0.00	0.00
Closing Equity	448.26	448.26	448.26	448.26	448.26
Average Equity	446.19	448.26	448.26	448.26	448.26
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)	87.50	87.90	87.90	87.90	87.90
<b>Interest on Working Capital</b>					
Maintenance Spares	15.38	15.89	16.41	16.96	17.52
O & M expenses	8.54	8.83	9.12	9.42	9.73
Receivables	67.08	66.44	65.60	64.77	63.96
<b>Total</b>	<b>91.00</b>	<b>91.15</b>	<b>91.14</b>	<b>91.15</b>	<b>91.22</b>
Interest	12.29	12.31	12.30	12.31	12.31



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Annual Transmission Charges</b>					
Depreciation	92.78	93.15	93.15	93.15	93.15
Interest on Loan	107.42	99.39	90.83	82.21	73.61
Return on Equity	87.50	87.90	87.90	87.90	87.90
Interest on Working Capital	12.29	12.31	12.30	12.31	12.31
O & M Expenses	102.51	105.91	109.43	113.06	116.81
<b>Total</b>	<b>402.50</b>	<b>398.65</b>	<b>393.62</b>	<b>388.63</b>	<b>383.78</b>

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

70. 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**

71. 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**

72. 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.

### **Sharing of Transmission Charges**

73. 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.

74. This order disposes of Petition No. 503/TT/2014.

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

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



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO**

(₹ in lakh)

Particulars	2009-14			
	Interest Rate (%)	Loan deployed as on 1.4.2009	Additions during the tariff period	Total
BOND XXXVIII - bond xxxviii	9.25	100.00	0.00	100.00
SBI (21.3.2012)-ADDCAP FOR 2013-2014 loan 3	0.00	0.00	212.00	212.00
BOND - XLI-BOND XLI	8.85	247.00	0.00	247.00
BOND - XLII-ADDCAP FOR 2012-2013 loan 1	8.80	0.00	10.61	10.61
BOND - XLII-ADDCAP FOR 2013-2014 loan 2	0.00	0.00	120.09	120.09
BOND - XLII-BOND XLII	8.80	559.30	0.00	559.30
BOND - XLV-ADDCAP FOR 2013-2014 loan 4	0.00	0.00	59.00	59.00
<b>Total</b>		<b>906.30</b>	<b>401.70</b>	<b>1308.00</b>

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

(₹ in lakh)

	2012-13	2013-14
Gross Opening Loan	906.30	916.91
Cumulative Repayments of Loans upto Previous Year	0.00	0.00
Net Loans Opening	906.30	916.91
Add: Drawl(s) during the year	10.61	391.09
Less: Repayment(s) of Loan during the year	0.00	0.00
Net Closing Loan	916.91	1308.00
Average Net Loan	911.61	1112.46
Interest on Loan	80.79	100.30
Rate of Interest on Loan (%)	8.8629	9.0161





**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO**

(₹ in lakh)

Particulars	2014-19		
	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XXXVIII - bond xxxviii	100.00	0.00	100.00
SBI (21.3.2012)-ADDCAP FOR 2013-2014 loan 3	212.00	0.00	212.00
BOND - XLI-BOND XLI	247.00	0.00	247.00
BOND - XLII-ADDCAP FOR 2012-2013 loan 1	10.61	0.00	10.61
BOND - XLII-ADDCAP FOR 2013-2014 loan 2	120.09	0.00	120.09
BOND - XLII-BOND XLII	559.30	0.00	559.30
BOND - XLV-ADDCAP FOR 2013-2014 loan 4	59.00	0.00	59.00
<b>Total</b>	<b>1308.00</b>	<b>0.00</b>	<b>1308.00</b>

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

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1308.00	1308.00	1308.00	1308.00	1308.00
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	39.85	84.62
Net Loans Opening	1308.00	1308.00	1308.00	1268.15	1223.38
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	0.00	39.85	44.77	44.77
Net Closing Loan	1308.00	1308.00	1268.15	1223.38	1178.61
Average Net Loan	1308.00	1308.00	1288.08	1245.77	1201.00
Interest on Loan	119.25	119.25	117.35	113.32	109.05
Rate of Interest on Loan (%)	9.1172	9.1172	9.1109	9.0965	9.0799

