

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 400/TT/2014**

**Coram:**

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

**Date of Hearing : 08.02.2016**

**Date of Order : 24.02.2016**

**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 125 MVAR Bus Reactor at 400/220 kV Rajgarh Substation along with associated Bays at Rajgarh Substation 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 Management Company Limited  
Shakti Bhawan, Rampur  
Jabalpur –482 008
2. Maharashtra State Electricity Distribution Co. Limited  
5<sup>th</sup> Floor, Prakashgad, Bandra (East),  
Mumbai – 400 051
3. Gujarat Urja Vikas Nigam Limited  
Sardar Patel Vidyut Bhawan,  
Race Course Road, Vadodara – 390 007
4. Electricity Department



Govt. of Goa  
Vidyut Bhawan, Panaji,  
Near 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  
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:	Mohd. Mohsin, PGCIL Shri S.K. Venkatesh, PGCIL Shri M.M. Mondal, PGCIL Smt. Sonam Gangwar, PGCIL Shri A.M. Pavgi, PGCIL Shri Pankaj Sharma, PGCIL Shri Jasbir Singh, PGCIL Shri S.S. Raju, PGCIL Shri Rakesh Prasad, PGCIL Shri Subhash C. Taneja, PGCIL
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For Respondent:	None
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## ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“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 of 125 MVAR Bus Reactor at 400/220 kV Rajgarh Substation along with associated Bays at Rajgarh (hereinafter referred as “transmission asset”) under installation of 125 MVAR Bus Reactor at 400 kV Rajgarh substation 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 8.2.2016. The petitioner has submitted its replies vide affidavit dated 17.2.2016. 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 125 MVAR Bus Reactor at 400 kV Rajgarh substation in Western Region was accorded by Board of Directors of the petitioner company vide letter dated 7.7.2010 at an estimated cost of ₹936.52 lakh, which included IDC of ₹56 lakh (based on 1<sup>st</sup> quarter, 2010 price level). The apportioned approved cost for the assets covered in the instant petition was ₹936.52 lakh.

(b) The petitioner has developed the transmission asset in the Western Region. The date of the commercial operation of the transmission asset is 1.6.2012.

(c) The tariff for the 2009-14 period was allowed vide order dated 25.6.2014 in Petition No. 94/TT/2012 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	23.47	35.67
Interest on Loan	27.06	39.02
Return on equity	23.31	35.43
Interest on Working Capital	4.55	6.15
O & M Expenses	51.60	65.46
<b>Total</b>	<b>129.99</b>	<b>181.74</b>



- (d) The Commission, vide order dated 25.6.2014 in Petition No. 94/TT/2012, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹477.78 lakh as on 1.6.2012.
- (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.
- (f) The instant petition was filed on 10.10.2014.

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

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

#### **Initial Spares**

6. 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%”

7. The petitioner submitted that the initial spares of ₹13.00 lakh for substation are within the prescribed limits as per the provisions of the 2009 Tariff Regulations. The initial spares worked out in accordance with Regulation 8 of the 2009 Tariff Regulations is shown in table below:-



Description	Capital Cost as on Cut-off date	Initial Spares submitted	Ceiling Limit	Initial spares worked out	Excess Initial spares claimed
Asset	(a)	(b)	(c)	$(d) = ((a - b) * c / (100\% - c\%))$	$(e) = (d) - (b)$
Sub-station	773.80	13.00	2.50%	19.51	0.00

8. The petitioner has submitted the Auditor's Certificate certifying the capital cost and additional capitalization claimed. As, the initial spares claimed by the petitioner is within the ceiling limit as specified in the 2009 Tariff Regulations, the capital cost of ₹477.78 lakh as on COD has been considered for working out the tariff for 2013-14.

### **Capital Cost**

9. The petitioner has claimed capital cost of ₹477.78 lakh as on 1.6.2012 for the purpose of tariff.

10. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides that:-

“(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.”

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



12. The petitioner has claimed actual capital cost of ₹477.78 lakh as on COD which was admitted by the Commission. We have considered the petitioner's submissions. We have considered the admitted capital cost of ₹477.78 lakh as on COD.

### **Additional Capital Expenditure**

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

14. Clause 1(i) 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;”

15. The Commission vide its order dated 25.6.2014 in Petition No. 94/TT/2012 has approved the additional capitalization of ₹111.10 lakh and ₹173.45 lakh during 2012-13 and 2013-14, respectively, towards balance & retention payments for works executed within cut-off date under Clause 1(i) of Regulation 9 of the 2009 Tariff Regulation. Against this, the petitioner has claimed additional capitalization of ₹111.10 lakh and ₹44.07 lakh in 2012-13 and 2013-14, respectively, towards balance & retention payments for works executed within cut-off date.

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



17. The total capital cost of ₹632.95 lakh for the Asset including additional capitalization claimed by the petitioner is within the overall approved apportioned cost of ₹936.52 lakh and the actual additional capital expenditure is lower than that approved by the Commission in its Order dated 25.6.2014 in Petition No. 94/TT/2012. Hence, considering the petitioner's submissions, we have allowed additional capitalization under Clause (1)(i) of Regulation 9 of the 2009 Tariff Regulations, as shown in the table below:

(₹ in lakh)

Approved Apportioned Cost: ₹936.52 lakh					
Particulars	Admitted capital cost as on COD	Additional Capitalization			Total capital cost including additional capitalization
		2012-13	2013-14	Total	
Approved in order dated 25.6.2014	477.78	111.10	173.45	284.55	762.33
Approved in this order	477.78	111.10	44.07	155.17	632.95

### **Debt: Equity**

18. 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.”

19. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30 as on 1.6.2012, as admitted by the Commission in its order dated 25.6.2014 in Petition No. 94/TT/2012, as opening debt:equity. As regards additional capitalization, the petitioner has submitted debt:equity ratio of 70:30 for 2012-13 and 2013-14.





20. The Commission vide its letter dated 8.2.2016 directed the petitioner to provide an undertaking on affidavit that actual equity infused for the additional capitalisation during 2009-14 period is not less than 30% for the given transmission asset. In this regard, the petitioner vide affidavit dated 17.2.2016 submitted the actual equity infused during the tariff period 2009-14 as tabulated below:

(₹ in lakh)

Particulars	Additional capitalization for the year	Actual Debt		Actual Equity	
		Amount	%	Amount	%
Additional capitalisation 2012-13	111.10	77.77	70.00	33.33	30.00
Additional capitalisation 2013-14	44.07	15.78	35.81	28.29	64.19

21. The petitioner submitted that, during 2012-13 and 2013-14 for additional capitalization of ₹111.10 lakh and ₹44.07 lakh, 70% and 35.81% loan has been deployed as shown in Form 13. As per clause 12(3) of Tariff Regulations'2009, 30% equity has been claimed during 2012-13 as indicated in Form 1A of the petition.

22. The petitioner further submitted that, during 2013-14 since equity deployed is more than 30%. As per Regulation 12(1) of Tariff Regulations'2009 equity deployed more than 30% shall be treated as deemed loan. Accordingly ROE has been claimed in Form-1A up to 30% of additional capitalization of the respective year as normative equity.

23. We have considered the petitioner's submission. It is observed that the petitioner has submitted debt:equity ratio of 35.81:64.19 for 2013-14. However in accordance to Clause 1 of Regulation 12, equity allowed should be within 30%.



Hence, for 2013-14, the debt:equity ratio of 70:30 is considered for the given transmission asset.

24. The admitted debt:equity ratio of 70:30 as on 1.6.2012 has been considered as opening debt:equity ratio as on 1.6.2012 for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

(₹ in lakh)		
Funding	Amount	(%)
Debt	334.45	70.00
Equity	143.33	30.00
<b>Total</b>	<b>477.78</b>	<b>100.00</b>

25. The debt:equity for tariff period 2009-14 as on 31.3.2014 including additional capitalization is as follows:-

(₹ in lakh)		
Particulars	Amount	(%)
Debt	443.07	70.00
Equity	189.89	30.00
<b>Total</b>	<b>632.95</b>	<b>100.00</b>

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

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

27. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest. 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 26.6.2014	27.06	39.02
As claimed by the petitioner	27.12	34.89
Allowed after trued up	27.12	34.89

28. The interest on loan has increased in 2012-13 due to increase in interest rate and decreased in 2013-14 due to reduction in actual additional capitalization.

### **Return on Equity (“ROE”)**

29. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provide that:-

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

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

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.”



30. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 27.6.2011. However, for truing up purpose, the computation of ROE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during the 2009-14 tariff period. 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)) %
2012-13	20.008	19.377
2013-14	20.961	19.610

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

Particulars	₹ in lakh	
	2012-13 (Pro rata)	2013-14
Approved vide order dated 25.6.2014	23.31	35.43
As claimed by the petitioner	25.84	35.94
Allowed after trued up	25.84	35.94

32. The return on equity allowed in the instant order is more than the return on equity allowed vide order dated 25.6.2014 on account of increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

### **Depreciation**

33. Clause (42) of Regulation 3 of the 2009 Tariff Regulations defines useful life as follows:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....



(c) AC and DC sub-station	25 years
(d) Hydro generating station	35 years
(e) Transmission line	35 years”

34. 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.”

35. The Commission, in its order dated 25.6.2014 in Petition No. 94/TT/2012, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations .

36. The weighted average useful life of the transmission asset has been considered as per Regulations 3 (42) and 17 (4) of the 2009 Tariff Regulations. For the purpose of calculation, the weighted average useful life of the asset as on COD has been considered as 25 years for the Asset. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:

Particulars	(₹ in lakh)	
	2012-13 (Pro rata)	2013-14
Approved vide order dated 25.6.2014	23.47	35.67
As claimed by the petitioner	23.47	32.26
Allowed after trued up	23.47	32.26



37. The variation in depreciation is on account of variation additional capitalization vis-à-vis that approved in the Order.

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

38. The petitioner has computed O&M Expenses for the assets mentioned in the petition in accordance with the O&M norms for 400 kV bays specified in Regulation 19(g) of the 2009 Tariff Regulations. The O&M Expenses claimed by the petitioner for the tariff period 2009-14 are same as that approved in the tariff order dated 26.6.2014, in Petition No. 94/TT/2012. The petitioner has claimed O&M Expenses for 1 bay of 400 kV level. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are as follows:-

Particulars		2012-13 (Pro rata)	2013-14
Actual	400 kV Bays	1	1
Norms as per Regulation	400 kV Bays	51.60	65.46
<b>Total (₹ in lakh)</b>		<b>51.60</b>	<b>65.46</b>

(₹ in lakh)

Particulars	2012-13 (Pro rata)	2013-14
Approved vide order dated 25.6.2014	51.60	65.46
As claimed by the petitioner	51.60	65.46
Allowed after trued up	51.60	65.46

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

39. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission system and



clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest of working capital.

40. 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.

41. The Commission in accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, has considered the rate of interest on working capital on normative basis, i.e., equal to State Bank of India Base Rate as applicable as on 1.4.2012 plus 350 basis points. State Bank of India Base Rate on 1.4.2012 was 10.00%. Therefore, interest rate of 13.50% (10.00% plus 350 basis points) has been considered to work out the interest on working capital in the instant case.

42. The IWC trued up is as under:-

Particulars	(₹ in lakh)	
	2012-13 (Pro rata)	2013-14
Maintenance Spares	7.74	9.82
O & M expenses	4.30	5.46
Receivables	22.11	29.09
Total	34.15	44.36
Rate of Interest (%)	13.50	13.50
Interest	<b>4.61</b>	<b>5.99</b>



Particulars	(₹ in lakh)	
	2012-13 (Pro rata)	2013-14
Approved vide order dated 25.6.2014	4.55	6.15
As claimed by the petitioner	4.61	5.99
Allowed after trued up	4.61	5.99

43. The variation in IWC is on account of increase in receivables due to variation in additional capitalization and variation in RoE on account of applicable MAT rate during the 2009-14 tariff period.

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

44. 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	477.78	588.88
Additional Capitalization	111.10	44.07
Closing Gross block	588.88	632.95
Average Gross block	533.33	610.92
<b>Depreciation</b>		
Rate of Depreciation (%)	5.280%	5.280%
Depreciable Value	480.00	549.82
Elapsed Life of the assets at beginning of year	0	1
Weighted Balance Useful life of the assets	25	24
Remaining Depreciable Value	480.00	526.36
Depreciation	23.47	32.26





Particulars	2012-13 (Pro-rata)	2013-14
<b>Interest on Loan</b>		
Gross Normative Loan	334.45	412.22
Cumulative Repayment up to Previous Year	0.00	23.47
Net Loan-Opening	334.45	388.75
Additions	77.77	30.85
Repayment during the year	23.47	32.26
Net Loan-Closing	388.75	387.34
Average Loan	361.60	388.05
Weighted Average Rate of Interest on Loan (%)	9.0008	8.9901
Interest	27.12	34.89
<b>Return on Equity</b>		
Opening Equity	143.33	176.66
Additions	33.33	13.22
Closing Equity	176.66	189.89
Average Equity	160.00	183.27
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)	25.84	35.94
<b>Interest on Working Capital</b>		
Maintenance Spares	7.74	9.82
O & M Expenses	4.30	5.46
Receivables	22.11	29.09
Total	34.15	44.36
Interest	4.61	5.99
<b>Annual Transmission Charges</b>		
Depreciation	23.47	32.26
Interest on Loan	27.12	34.89
Return on Equity	25.84	35.94
Interest on Working Capital	4.61	5.99
O & M Expenses	51.60	65.46
<b>Total</b>	<b>132.63</b>	<b>174.53</b>



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

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	37.14	40.86	40.86	40.86	40.86
Interest on Loan	37.52	38.49	34.84	31.19	27.54
Return on Equity	41.38	45.52	45.52	45.52	45.52
Interest on Working Capital	6.00	6.32	6.35	6.38	6.42
O&M Expenses	60.30	62.30	64.37	66.51	68.71
<b>Total</b>	<b>182.34</b>	<b>193.49</b>	<b>191.94</b>	<b>190.46</b>	<b>189.05</b>

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	30.39	32.25	31.99	31.74	31.51
<b>Total</b>	<b>44.47</b>	<b>46.79</b>	<b>47.01</b>	<b>47.26</b>	<b>47.55</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>6.00</b>	<b>6.32</b>	<b>6.35</b>	<b>6.38</b>	<b>6.42</b>

### **Capital Cost**

47. 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.”

48. The petitioner has claimed capital expenditure of ₹632.95 lakh as on 31.3.2014. Further, the petitioner has also projected additional capital expenditure of ₹140.85 lakh during the tariff period 2014-19. The trued up capital cost of ₹632.95 lakh as on 31.3.2014 is considered to workout tariff for the 2014-19 tariff period.

### **Additional Capital Expenditure**

49. 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;”

50. The petitioner has claimed additional capitalization of ₹140.85 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 Commission vide its letter dated 8.2.2016 directed the petitioner 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 17.2.2016 submitted the details of the contract for which payment has been retained and also submitted that entire amount of additional capitalization of ₹140.85 lakh upto 2013-14 has been released.



51. As the total capital cost of ₹773.80 lakh including additional capital expenditure during 2014-19 period is well within the approved apportioned cost of ₹936.52 lakh, we have considered the petitioner's submission and have allowed additional capitalisation of ₹140.85 lakh in 2014-15 in accordance with Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations.

**(₹ in lakh)**

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	632.95	140.85	0.00	0.00	0.00	0.00	140.85	773.80

### **Debt:Equity Ratio**

52. 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.”

53. The petitioner has considered debt:equity ratio as 70:30 as on 31.3.2014. The debt:equity ratio of 70:30 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:-

**(₹ in lakh)**

Particulars	Amount	(%)
Debt	443.07	70.00
Equity	189.89	30.00
<b>Total</b>	<b>632.95</b>	<b>100.00</b>



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

Particulars	Amount	(₹ in lakh)
		(%)
Debt	541.66	70.00
Equity	232.14	30.00
<b>Total</b>	<b>773.80</b>	<b>100.00</b>

### **Interest on Loan (“IOL”)**

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

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

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

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

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

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

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



(₹in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	443.07	541.66	541.66	541.66	541.66
Cumulative Repayment upto Previous Year	55.72	92.86	133.72	174.57	215.43
Net Loan-Opening	387.34	448.80	407.94	367.09	326.23
Additions	98.60	0.00	0.00	0.00	0.00
Repayment during the year	37.14	40.86	40.86	40.86	40.86
Net Loan-Closing	448.80	407.94	367.09	326.23	285.37
Average Loan	418.07	428.37	387.51	346.66	305.80
Weighted Average Rate of Interest on Loan (%)	8.9755	8.9857	8.9917	8.9964	9.0055
<b>Interest</b>	<b>37.52</b>	<b>38.49</b>	<b>34.84</b>	<b>31.19</b>	<b>27.54</b>

### **Return on Equity (“ROE”)**

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

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

**“25. Tax on Return on Equity:**

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

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

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

59. 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.

60. 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.

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



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	189.89	232.14	232.14	232.14	232.14
Additions	42.26	0.00	0.00	0.00	0.00
Closing Equity	232.14	232.14	232.14	232.14	232.14
Average Equity	211.01	232.14	232.14	232.14	232.14
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
<b>Return on Equity (Pre Tax)</b>	<b>41.38</b>	<b>45.52</b>	<b>45.52</b>	<b>45.52</b>	<b>45.52</b>

### Depreciation

62. 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 up to 31.3.2014 from the gross depreciable value of the assets."

63. The petitioner has computed depreciation considering capital expenditure of ₹632.95 lakh as on 31.3.2014 and projected additional capitalization of ₹140.85 lakh for the tariff period 2014-19.





64. We have considered capital expenditure of ₹632.95 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	632.95	773.80	773.80	773.80	773.80
Additional Capitalisation	140.85	0.00	0.00	0.00	0.00
Gross block at the end of the year	773.80	773.80	773.80	773.80	773.80
Average Gross Block	703.38	773.80	773.80	773.80	773.80
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	633.04	696.42	696.42	696.42	696.42
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	577.31	603.56	562.70	521.85	480.99
<b>Depreciation</b>	<b>37.14</b>	<b>40.86</b>	<b>40.86</b>	<b>40.86</b>	<b>40.86</b>

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

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

		(₹ in lakh)				
Particulars		2014-15	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV Bays	1	1	1	1	1
Norms as per Regulation	400 kV Bays	60.30	62.30	64.37	66.51	68.71
<b>Total (₹ in lakh)</b>		<b>60.30</b>	<b>62.30</b>	<b>64.37</b>	<b>66.51</b>	<b>68.71</b>

66. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during



the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company is due during 2014-19 and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

67. 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.

68. 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>60.30</b>	<b>62.30</b>	<b>64.37</b>	<b>66.51</b>	<b>68.71</b>

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

69. 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;”

70. 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%.

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	30.39	32.25	31.99	31.74	31.51
Total	44.46	46.78	47.01	47.26	47.54
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>6.00</b>	<b>6.32</b>	<b>6.35</b>	<b>6.38</b>	<b>6.42</b>

### Annual Transmission Charges

72. 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	632.95	773.80	773.80	773.80	773.80
Additional Capitalisation	140.85	0.00	0.00	0.00	0.00
Closing Gross Block	773.80	773.80	773.80	773.80	773.80
Average Gross Block	703.38	773.80	773.80	773.80	773.80



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	633.04	696.42	696.42	696.42	696.42
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	577.31	603.56	562.70	521.85	480.99
Depreciation	37.14	40.86	40.86	40.86	40.86
<b>Interest on Loan</b>					
Gross Normative Loan	443.07	541.66	541.66	541.66	541.66
Cumulative Repayment upto Previous Year	55.72	92.86	133.72	174.57	215.43
Net Loan-Opening	387.34	448.80	407.94	367.09	326.23
Additions	98.60	0.00	0.00	0.00	0.00
Repayment during the year	37.14	40.86	40.86	40.86	40.86
Net Loan-Closing	448.80	407.94	367.09	326.23	285.37
Average Loan	418.07	428.37	387.51	346.66	305.80
Weighted Average Rate of Interest on Loan (%)	8.9755	8.9857	8.9917	8.9964	9.0055
Interest	37.52	38.49	34.84	31.19	27.54
<b>Return on Equity</b>					
Opening Equity	189.89	232.14	232.14	232.14	232.14
Additions	42.26	0.00	0.00	0.00	0.00
Closing Equity	232.14	232.14	232.14	232.14	232.14
Average Equity	211.01	232.14	232.14	232.14	232.14
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)	41.38	45.52	45.52	45.52	45.52
<b>Interest on Working Capital</b>					



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	30.39	32.25	31.99	31.74	31.51
<b>Total</b>	<b>44.46</b>	<b>46.78</b>	<b>47.01</b>	<b>47.26</b>	<b>47.54</b>
Interest	6.00	6.32	6.35	6.38	6.42
<b>Annual Transmission Charges</b>					
Depreciation	37.14	40.86	40.86	40.86	40.86
Interest on Loan	37.52	38.49	34.84	31.19	27.54
Return on Equity	41.38	45.52	45.52	45.52	45.52
Interest on Working Capital	6.00	6.32	6.35	6.38	6.42
O & M Expenses	60.30	62.30	64.37	66.51	68.71
<b>Total</b>	<b>182.34</b>	<b>193.49</b>	<b>191.94</b>	<b>190.46</b>	<b>189.05</b>

73. 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 Publication Expenses**

74. 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**

75. 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**

76. 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**

77. 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.

78. This Order disposes of Petition No. 400/TT/2014.

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

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



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

Particulars	Interest Rate (%)	Loan deployed as on 1.6.2012	Additions during the tariff period	Total
BOND XXXIII-BOND XXXIII-	8.64	150.00	0.00	150.00
BOND XXXVIII - DOCO DRAWL ON 01-JUN-2012	9.25	100.00	0.00	100.00
BOND XL - ADDCAP FOR 2012-2013 ADD Cap 2012-13 Loan 1-	9.30	0.00	66.55	66.55
BOND XL-DOCO Drawl-	9.30	84.45	0.00	84.45
BOND XLIII - ADDCAP FOR 2012-2013 Loan-2	7.93	0.00	11.22	11.22
BOND XLIII - ADDCAP FOR 2013-2014 ADD Cap 2013-14 Loan-1	7.93	0.00	15.78	15.78
<b>Total</b>		<b>334.45</b>	<b>93.55</b>	<b>428.00</b>

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

Particulars	2012-13	2013-14
Gross Opening Loan	334.45	412.22
Cumulative Repayments of Loans up to Previous Year	0.00	0.00
Net Loans Opening	334.45	412.22
Add: Drawl(s) during the year	77.77	15.78
Less: Repayment(s) of Loan during the year	0.00	0.00
Net Closing Loan	412.22	428.00
Average Net Loan	373.34	420.11
Interest on Loan	33.60	37.77
<b>Rate of Interest on Loan (%)</b>	<b>9.0008</b>	<b>8.9901</b>



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

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XXXIII-BOND XXXIII-	8.64	150.00	0.00	150.00
BOND XXXVIII - DOCO DRAWL ON 01-JUN-2012	9.25	100.00	0.00	100.00
BOND XL - ADDCAP FOR 2012-2013 ADD Cap 2012-13 Loan 1-	9.30	66.55	0.00	66.55
BOND XL-DOCO Drawl-	9.30	84.45	0.00	84.45
BOND XLIII - ADDCAP FOR 2012-2013 Loan-2	7.93	11.22	0.00	11.22
BOND XLIII - ADDCAP FOR 2013-2014 ADD Cap 2013-14 Loan-1	7.93	15.78	0.00	15.78
<b>Total</b>		<b>428.00</b>	<b>0.00</b>	<b>428.00</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	428.00	428.00	428.00	428.00	428.00
Cumulative Repayments of Loans up to Previous Year	0.00	12.50	25.00	50.09	77.44
Net Loans Opening	428.00	415.50	403.00	377.91	350.56
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	12.50	12.50	25.09	27.35	27.35
Net Closing Loan	415.50	403.00	377.91	350.56	323.21
Average Net Loan	421.75	409.25	390.46	364.24	336.89
Interest on Loan	37.85	36.77	35.11	32.77	30.34
<b>Rate of Interest on Loan (%)</b>	<b>8.9755</b>	<b>8.9857</b>	<b>8.9917</b>	<b>8.9964</b>	<b>9.0055</b>

