

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO. 447/TT/2014**

**Coram:**

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

**Date of Hearing: 27.01.2016  
Date of Order : 16.02.2016**

**In the matter of:** Truing up of transmission tariff for 2009-14 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for Spare Converter Transformer for Vizag back-to-back HVDC terminal in Southern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

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

**.....Petitioner**

**Versus**

1. Karnataka Power Transmission Corporation Ltd.,  
(KPTCL), Kaveri Bhavan, Bangalore – 560009
2. Transmission Corporation of Andhra Pradesh Ltd.  
(APTRANSCO), Vidyut Soudha, Hyderabad- 500082
3. Kerala State Electricity Board, Thiruvananthapuram  
Vaidyuthi Bhavanam, Pattom,  
Thiruvananthapuram - 695 004
4. Tamil Nadu Generation and Distribution Corporation Ltd  
(Formerly Tamilnadu Electricity Board -TNEB)  
NPKRR Maaligai, 800, Anna Salai Chennai - 600 002
5. Electricity Department  
Govt of Pondicherry, Pondicherry – 605001



6. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)  
P&T Colony, Seethmmadhara Vishakhapatnam,  
Andhra Pradesh
7. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)  
Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road,  
Kesavayana Gunta, Tirupati-517 501,  
Chittoor District, Andhra Pradesh
8. Central Power Distribution Company of Andhra Pradesh limited (APCPDCL)  
Corporate Office, Mint Compound,  
Hyderabad- 500 063, Andhra Pradesh
9. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL)  
Opp. NIT Petrol Pump Chaitanyapuri, Kazipet,  
Warangal - 506 004 Andhra Pradesh
10. Bangalore Electricity Supply Company Ltd.,(BESCOM),  
Corporate Office, K.R.Circle Bangalore - 560 001 Karnataka
11. Gulbarga Electricity Supply Company Ltd., (GESCOM)  
Station Main Road, Gulbarga, Karnataka
12. Hubli Electricity Supply Company Ltd., (HESCOM)  
Navanagar, PI3 Road Hubli, Karnataka
13. MESCOM Corporate Office,  
Paradigm Plaza, AB Shetty Circle  
Mangalore - 575 001, Karnataka
14. Chamundeswari Electricity Supply Corporation Ltd., (CESC)  
927, L J Avenue Ground Floor,  
New Kantharaj Urs Road Saraswatipuram,  
Mysore – 570009, Karnataka
15. Electricity Department, Government of Goa,  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel,  
Goa - 403 001

.....Respondents

The following were present:

For Petitioner:        Shri Rakesh Prasad, PGCIL  
                              Shri Jasbir Singh, PGCIL  
                              Shri Anshul Garg, PGCIL  
                              Shri S.K. Venkatesan, PGCIL  
                              Shri M.M. Mondal, PGCIL



Shri S.S. Raju, PGCIL  
Shri S.C. Taneja, PGCIL  
Smt. Sangeeta Edwards, PGCIL

For Respondents: None of the respondents were present.

### **ORDER**

The petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as "the petitioner") for revision of tariff under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations") based on truing up of capital expenditure for the period 1.4.2009 to 31.3.2014 and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") for the period from 1.4.2014 to 31.3.2019 in respect of for Spare Converter Transformer for Vizag back-to-back HVDC terminal in Southern Region (hereinafter referred to as "the transmission asset").

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

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

a) The investment approval for procurement of the transmission asset was accorded by the Board of Directors of the petitioner's company vide letter dated 6.6.2006 at an estimated cost of ₹2559 lakh, including IDC of ₹52 lakh. The transmission assets were commissioned on 1.1.2012.



b) The annual transmissions charges for 2009-14 tariff periods for the transmission asset were determined vide order dated 21.6.2013 in Petition No. 72/TT/2011 based on admitted capital cost of the transmission asset and debt:equity as on COD. The estimated additional capital expenditure of ₹788.25 lakh and ₹327.21 lakh towards balance and retention payments during 2011-12 and 2012-13 was considered for determination of tariff for 2009-14 tariff period. The details of capital cost are as shown below:-

(₹ in lakh)

Total approved cost	Admitted cost as on COD	Allowed Additional capital expenditure during 2009-14			Cost as on 31.3.2014
		2011-12	2012-13	Total	
2559.00	960.59*	788.25	327.21	1115.46	2076.05

\*IDC of ₹11.13 lakh and IEDC of ₹11.30 lakh for 7 months disallowed due to time-overrun

c) The annual fixed charges were determined vide order dated 21.6.2013 in Petition No. 72/TT/2011 based on the above capital cost and estimated additional capital expenditure for the transmission assets during 2009-14 as given below:-

(₹ in lakh)

Particulars	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	17.88	100.98	109.62
Interest on Loan	20.76	112.30	113.11
Return on Equity	17.16	100.29	108.87
Interest on Working Capital	1.13	6.26	6.62
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>57.53</b>	<b>319.83</b>	<b>338.23</b>

4. As per Regulation 6 of the 2009 Tariff Regulations, the Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to



31.3.2014, as admitted by the Commission after prudence check at the time of truing up. Further, as per Regulation 15 of the 2009 Tariff Regulations, the petitioner is required to adjust the yearly impact of MAT rate in the truing up petition for 2009-14 tariff period.

5. The petitioner has filed the instant petition on 2.11.2014, for revision of tariff for the tariff period 2009-14 in accordance with Regulation 6 of the 2009 Tariff Regulations.

6. The petitioner has served the petition to the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003. No comments/objections have been received from the public in response to the notice in newspaper. None of the respondents have filed the reply in the matter. The hearing in this matter was held on 27.1.2016. The petitioner was directed to submit the details of additional capital expenditure, undischarged liabilities and actual equity infused during 2009-14 and 2014-19 tariff periods which has been submitted by the petitioner through affidavit dated 10.2.2016.

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

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

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

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



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

### **Capital Cost**

10. The petitioner has claimed capital cost of ₹960.59 lakh as on COD in respect of the transmission asset for the purpose of tariff determination.

11. The Regulation 7 of the 2009 Tariff Regulations provides that:-

**“Capital Cost.** (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.

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

xxx  
xxx.”

12. Accordingly, the admitted capital cost of ₹960.59 lakh as on 31.3.2009 has been considered as opening capital cost on 1.4.2009 for truing up of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations.

### **Additional Capital Expenditure**

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



“Truing up of Capital Expenditure and Tariff (1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014.

xxx  
xxx”

14. Regulation 9(1) of the 2009 Regulations provides that:-

“Additional Capitalisation (1) 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;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in law:

xxx  
xxx”

15. The petitioner has submitted that it has incurred an additional capital expenditure of ₹1137.72 lakh during 2009-14 towards balance and retention payments for the works completed before the cut-off date, as depicted below:-

(₹ in lakh)

Capital cost as on COD	Additional capital expenditure			Capital cost as on 31.3.2014
	2011-12	2012-13	Total	
960.59	788.25	349.47	1137.72	2098.31

16. The petitioner has claimed the admissibility of additional capital expenditure before the cut-off date under Regulation 9(1)(i) of 2009 Tariff Regulations. We have considered the submissions of the petitioner with regard to the additional capital expenditure during 2009-14. The above mentioned additional capital expenditure is towards balance and retention payments and the same has been certified by the Auditor vide certificate dated 30.10.2014.



17. The petitioner has claimed additional capital expenditure of ₹349.47 lakh which is higher than the admitted capital expenditure of ₹327.21 lakh during 2012-13. The petitioner has submitted that the increase is due to balance and retention payments and has not submitted the detailed justification for the increase in the additional capital expenditure. As the petitioner has not submitted the reasons for the increase, we are not inclined to allow the increase in the additional capital expenditure. Accordingly, the additional capital expenditure during 2012-13 is restricted to the admitted additional capital expenditure approved in the order dated 21.6.2013 in Petition No. 72/TT/2011. Thus, the same is allowed for the purpose of revision of tariff in accordance with Regulation 9(1)(i) and Regulation 6 of the 2009 Tariff Regulations as under:-

(₹ in lakh)

Capital cost as on COD	Additional capital expenditure			Capital cost as on 31.3.2014
	2011-12	2012-13	Total	
960.59	788.25	327.21	1115.46	2076.05

### **Debt: Equity**

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

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

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

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

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





19. The debt:equity ratio admitted by the Commission vide order dated 21.6.2013 in Petition No. 72/TT/2011 as on 31.3.2014 has been considered as on COD for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations. In response to the Commission`s query, the petitioner vide affidavit dated 9.2.2016, submitted that the actual equity infusion during 2011-12 is 35.73% and during 2012-13 is 23.89%. However, for the determination of tariff debt:equity for 2011-12 has been considered as of 70:30 on normative basis.

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

(₹ in lakh)

Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2009-14	(%)	Total cost as on 31.3.2014	(%)
Debt	672.41	70.00	800.83	71.88	1,473.24	71.02
Equity	288.18	30.00	314.63	28.12	602.81	28.98
<b>Total</b>	<b>960.59</b>	<b>100.00</b>	<b>1115.46</b>	<b>100.00</b>	<b>2076.05</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

21. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff Regulations provide as follows:-

“(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 may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on



Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

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

Year	MAT Rate claimed in the current petition (%)	Grossed up ROE (Base Rate/(1-t)) claimed in the current petition (%)
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

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

(₹ in lakh)

Return on Equity	2011-12 (pro-rata)	2012-13	2013-14
Approved in Order dated 21.06.2013	17.16	100.29	108.87
Claimed by the petitioner	19.69	109.75	119.25
Allowed in this Order	19.69	109.23	118.21

The difference in the approved ROE and that allowed after truing up is on account of actual grossed up ROE based on actual MAT rate and increase due to actual additional capital expenditure.



### **Interest on Loan (“IoL”)**

24. Regulation 16 of the 2009 Tariff Regulations provide the methodology for working out weighted average rate of IoL. The Commission in its earlier order dated 21.6.2013 in Petition No. 72/TT/2011 has dealt with similar issue and held that:-

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

25. The petitioner has submitted the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, the IoL has been calculated based on actual interest rate submitted by the petitioner, in accordance with the Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are placed in Annexure-1. The IoL worked out is as follows:-

(₹ in lakh)

<b>Interest on Loan</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 21.06.2013	20.76	112.30	113.11
Claimed by the petitioner	21.72	119.09	121.49
Allowed in this Order	21.72	118.33	120.03

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

### **Depreciation**

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



(₹ in lakh)

<b>Depreciation</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 21.06.2013	17.88	100.98	109.62
Claimed by the petitioner	17.88	101.57	110.79
Allowed in this Order	17.88	100.98	109.62

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

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

25. The O&M Expenses are not applicable for spare converter transformer and the petitioner has also not claimed the O&M expenses. Accordingly, no O&M Expenses are considered in the instant petition.

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

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

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Approved in Order dated 21.06.2013	1.13	6.26	6.62
Claimed by the petitioner	1.19	6.60	7.02
Allowed in this Order	1.18	6.56	6.95

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



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

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

(₹ in lakh)

<b>Particulars</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Depreciation</b>			
Opening Gross Block	960.59	1748.84	2076.05
Additional Capitalisation	788.25	327.21	0.00
Closing Gross Block	1748.84	2076.05	2076.05
Average Gross Block	1354.72	1912.45	2076.05
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	1219.24	2075.91	2015.69
Balance Useful life of the asset	25.00	24.00	23.00
Elapsed Life	0.00	1.00	2.00
Remaining Depreciable Value	354.71	838.79	885.05
Depreciation during the year	17.88	100.98	109.62
<b>Interest on Loan</b>			
Gross Normative Loan	672.41	1224.19	1473.24
Cumulative Repayment upto Previous Year	0.00	17.88	118.86
Net Loan-Opening	672.41	1206.31	1354.39
Additions	551.78	249.06	0.00
Repayment during the year	17.88	100.98	109.62
Net Loan-Closing	1206.31	1354.39	1244.77
Average Loan	939.36	1280.35	1299.58
Weighted Average Rate of Interest on Loan (%)	9.2500	9.2424	9.2362
Interest on Loan	21.72	118.33	120.03
<b>Return on Equity</b>			
Opening Equity	288.18	524.65	602.81
Additions	236.48	78.15	0.00
Closing Equity	524.65	602.81	602.81
Average Equity	406.41	563.73	602.81
Return on Equity (Base Rate )	15.500	15.500	15.500
MAT rate for the respective year	20.008	20.008	20.961
Rate of Return on Equity	19.377	19.377	19.610



Particulars	2011-12 (pro-rata)	2012-13	2013-14
Return on Equity	19.69	109.23	118.21
<b>Interest on Working Capital</b>			
O & M expenses	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00
Receivables	40.32	55.85	59.13
Total	40.32	55.85	59.13
Rate of Interest	11.750	11.750	11.750
Interest on Working Capital	1.18	6.56	6.95
<b>Annual Transmission Charges</b>			
Depreciation	17.88	100.98	109.62
Interest on Loan	21.72	118.33	120.03
Return on Equity	19.69	109.23	118.21
Interest on Working Capital	1.18	6.56	6.95
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>60.48</b>	<b>335.11</b>	<b>354.81</b>

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

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

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	110.79	110.79	110.79	110.79	110.79
Interest on Loan	111.26	101.02	90.79	80.56	70.33
Return on Equity	119.25	119.25	119.25	119.25	119.25
Interest on Working Capital	7.86	7.62	7.38	7.15	6.91
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>349.16</b>	<b>338.68</b>	<b>328.21</b>	<b>317.75</b>	<b>307.28</b>

(₹ in lakh)

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

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	58.19	56.45	54.70	52.96	51.21
Total	58.19	56.45	54.70	52.96	51.21
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	7.86	7.62	7.38	7.15	6.91

(₹ in lakh)



## **Capital Cost**

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

“(3) The Capital cost of an existing project shall include the following:

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;
- (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
- (c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

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

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

31. The petitioner has claimed capital cost of ₹2098.31 lakh as opening capital cost on 1.4.2014 for the purpose of truing up of tariff. However, the same has been restricted to ₹2076.05 lakh as the additional capital expenditure of ₹22.26 lakh has been disallowed as mentioned in para 16 above.

## **Additional Capital Expenditure**

32. The petitioner has not claimed additional capital expenditure for 2014-19 tariff period.

## **Debt: Equity**

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

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

“(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”



“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

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

(₹ in lakh)

Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-15	Total Cost as on 31.3.2019	(%)
Debt	1,473.24	71.02	0.00	1,473.24	71.02
Equity	602.81	28.98	0.00	602.81	28.98
<b>Total</b>	<b>2076.05</b>	<b>100.00</b>	<b>0.00</b>	<b>2076.05</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

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

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system”

“25. Tax on Return on Equity:

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

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

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

36. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during the 2013-14 has been





considered for the purpose of ROE, which shall be trued up with actual tax rate in accordance with Clause (3) of Regulation 25 of the 2014 Tariff Regulations. The ROE has been worked out and allowed as follows:-

(₹ in lakh)

Return on Equity	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	602.81	602.81	602.81	602.81	602.81
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	602.81	602.81	602.81	602.81	602.81
Average Equity	602.81	602.81	602.81	602.81	602.81
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	118.21	118.21	118.21	118.21	118.21

### **Interest on Loan (“IoL”)**

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

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

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

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

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

38. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2014. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted.



Accordingly, the floating rate of interest, if any, shall be considered at the time of true up or next revision of tariff. By considering above, the IoL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest for 2014-19 tariff period are placed in Annexure 2. IoL has been worked out and allowed as follows:

(₹ in lakh)

Interest on Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1473.24	1473.24	1473.24	1473.24	1473.24
Cumulative Repayment upto Previous Year	228.47	338.09	447.71	557.32	666.94
Net Loan-Opening	1244.77	1135.15	1025.54	915.92	806.31
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	109.62	109.62	109.62	109.62	109.62
Net Loan-Closing	1135.15	1025.54	915.92	806.31	696.69
Average Loan	1189.96	1080.35	970.73	861.12	751.50
Weighted Average Rate of Interest on Loan (%)	9.2362	9.2359	9.2360	9.2366	9.2372
Interest on Loan	109.91	99.78	89.66	79.54	69.42

### **Depreciation**

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

"27. Depreciation:

...(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis"

"(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.



(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

40. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2014 and accumulated depreciation up to 31.3.2014. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)					
<b>Depreciation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	2076.05	2076.05	2076.05	2076.05	2076.05
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	2076.05	2076.05	2076.05	2076.05	2076.05
Average Gross Block	2076.05	2076.05	2076.05	2076.05	2076.05
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	1868.45	1868.45	1868.45	1868.45	1868.45
Balance Useful life of the asset	22.00	21.00	20.00	19.00	18.00
Elapsed Life	3.00	4.00	5.00	6.00	7.00
Remaining Depreciable Value	775.44	665.82	556.21	446.59	336.98
Depreciation	109.62	109.62	109.62	109.62	109.62

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

41. The O&M expenses are not applicable for spare converter transformer and the petitioner has also not claimed any O&M expenses. Accordingly, no O&M expenses are allowed in the instant petition.

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

42. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies as follows:

#### **“28. Interest on Working Capital**

- (c) (i) Receivables equivalent to two months of fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and
- (iii) Operation and maintenance expenses for one month”



“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

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

44. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The components of the working capital and interest thereon have been worked as follows:-

(₹ in lakh)					
<b>Interest on Working Capital</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	57.58	55.86	54.13	52.41	50.68
Total	57.58	55.86	54.13	52.41	50.68
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	7.77	7.54	7.31	7.07	6.84

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

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

(₹ in lakh)					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	2076.05	2076.05	2076.05	2076.05	2076.05
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	2076.05	2076.05	2076.05	2076.05	2076.05
Average Gross Block	2076.05	2076.05	2076.05	2076.05	2076.05
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	1868.45	1868.45	1868.45	1868.45	1868.45



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Balance Useful life of the asset	22.00	21.00	20.00	19.00	18.00
Elapsed Life	3.00	4.00	5.00	6.00	7.00
Remaining Depreciable Value	775.44	665.82	556.21	446.59	336.98
Depreciation during the year	109.62	109.62	109.62	109.62	109.62
<b>Interest on Loan</b>					
Gross Normative Loan	1473.24	1473.24	1473.24	1473.24	1473.24
Cumulative Repayment upto Previous Year	228.47	338.09	447.71	557.32	666.94
Net Loan-Opening	1244.77	1135.15	1025.54	915.92	806.31
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	109.62	109.62	109.62	109.62	109.62
Net Loan-Closing	1135.15	1025.54	915.92	806.31	696.69
Average Loan	1189.96	1080.35	970.73	861.12	751.50
Weighted Average Rate of Interest on Loan (%)	9.2362	9.2359	9.2360	9.2366	9.2372
Interest on Loan	109.91	99.78	89.66	79.54	69.42
<b>Return on Equity</b>					
Opening Equity	602.81	602.81	602.81	602.81	602.81
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	602.81	602.81	602.81	602.81	602.81
Average Equity	602.81	602.81	602.81	602.81	602.81
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity	19.610	19.610	19.610	19.610	19.610
Return on Equity	118.21	118.21	118.21	118.21	118.21
<b>Interest on Working Capital</b>					
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	57.58	55.86	54.13	52.41	50.68
Total	57.58	55.86	54.13	52.41	50.68
Rate of Interest	13.500	13.500	13.500	13.500	13.500
Interest on Working Capital	7.77	7.54	7.31	7.07	6.84
<b>Annual Transmission Charges</b>					
Depreciation	109.62	109.62	109.62	109.62	109.62
Interest on Loan	109.91	99.78	89.66	79.54	69.42
Return on Equity	118.21	118.21	118.21	118.21	118.21
Interest on Working Capital	7.77	7.54	7.31	7.07	6.84
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>345.51</b>	<b>335.15</b>	<b>324.79</b>	<b>314.44</b>	<b>304.09</b>



### **Deferred Tax Liability**

46. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same gets materialized directly from the beneficiaries or long term transmission customers /DICs.

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

47. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 52 (1) of the 2014 Tariff Regulations.

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

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

### **Service Tax**

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



### **Sharing of Transmission Charges**

50. 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.

51. This order disposes of Petition No. 447/TT/2014.

Sd/-

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

Sd/-

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



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

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVII-loan-1 DOCO-	9.25	525.00	0.00	525.00
BOND XXXVIII-ADDCAP FOR 2011-2012 ADDCAP FOR 2011-2012 Add Cap Loan-	9.25	0.00	506.59	506.59
BOND XXXVIII-Loan II DOCO-	9.25	147.41	0.00	147.41
BOND XL-ADDCAP FOR 2012-2013 Add Cap Loan-	9.30	0.00	192.00	192.00
BOND - XLI-ADDCAP FOR 2012-2013 Add Cap Loan-	8.85	0.00	74.00	74.00
<b>Total</b>		<b>672.41</b>	<b>772.59</b>	<b>1445.00</b>

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

(₹ in lakh)

Particulars	2011-12	2012-13	2013-14
Gross Opening Loan	672.41	1179.00	1445.00
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00
<b>Net Loans Opening</b>	<b>672.41</b>	<b>1179.00</b>	<b>1445.00</b>
Add: Draw(s) during the Year	506.59	266.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	0.00
<b>Net Closing Loan</b>	<b>1179.00</b>	<b>1445.00</b>	<b>1445.00</b>
Average Net Loan	925.71	1312.00	1445.00
Rate of Interest on Loan (%)	9.2500	9.2424	9.2362
<b>Interest on Loan</b>	<b>85.63</b>	<b>121.26</b>	<b>133.46</b>

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





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

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XXXVII-loan-1 DOCO-	9.25	525.00	0.00	525.00
BOND XXXVIII-ADDCAP FOR 2011-2012 ADDCAP FOR 2011-2012 Add Cap Loan-	9.25	506.59	0.00	506.59
BOND XXXVIII-Loan II DOCO-	9.25	147.41	0.00	147.41
BOND XL-ADDCAP FOR 2012-2013 Add Cap Loan-	9.30	192.00	0.00	192.00
BOND - XLI-ADDCAP FOR 2012-2013 Add Cap Loan-	8.85	74.00	0.00	74.00
<b>Total</b>		<b>1445.00</b>	<b>0.00</b>	<b>1445.00</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	1445.00	1445.00	1445.00	1445.00	1445.00
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	43.75	109.67	175.59
<b>Net Loans Opening</b>	<b>1445.00</b>	<b>1445.00</b>	<b>1401.25</b>	<b>1335.33</b>	<b>1269.41</b>
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	43.75	65.92	65.92	65.92
<b>Net Closing Loan</b>	<b>1445.00</b>	<b>1401.25</b>	<b>1335.33</b>	<b>1269.41</b>	<b>1203.49</b>
Average Net Loan	1445.00	1423.13	1368.29	1302.37	1236.45
Rate of Interest on Loan (%)	9.2362	9.2359	9.2360	9.2366	9.2372
<b>Interest on Loan</b>	<b>133.46</b>	<b>131.44</b>	<b>126.38</b>	<b>120.29</b>	<b>114.21</b>

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

