

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 96/TT/2016

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

**Date of Hearing : 10.08.2016
Date of Order : 22.08.2016**

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 **Asset:** Augmentation of Hosur Sub-station by 1 x 315 MVA, 400/220 kV, Transformer and associated bays under System Strengthening Scheme – XIV 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 -122 001 (Haryana).

.....**Petitioner**

Versus

1. Karnataka Power Transmission Corporation Ltd.
(KPTCL), Kaveri Bhavan, Bangalore -560 009
2. Transmission Corporation of Andhra Pradesh Ltd.
(APTRANSCO), Vidyut Soudha, Hyderabad- 500082
3. Kerala State Electricity Board (KSEB)
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram- 695 004



4. Tami Nadu Generation and Distribution Corporation Ltd., NPKRR Maaligai, 800, Anna Salai, Chennai- 600 002
5. Electricity Department
Government of Pondicherry,
Pondicherry- 605 001
6. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL), P&T Colony, Seethmmadhara, Vishakhapatnam
7. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL), Tirupati- 517 501, Chittoor District, Andhra Pradesh
8. Central Power Distribution Company of Andhra Pradesh Limited (APCPDCL), Corporate Office, Mint Compound, Hyderabad- 500 063
9. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL), Opp. NIT Petrol Pump, Chaitanyapuri, Warangal- 506 004
10. Bangalore Electricity Supply Company Limited (BESCOM) Corporate Office, K.R Circle, Bangalore- 560 001, Karnataka
11. Gulbarga Electricity Supply Company Limited (GESCOM) Station Road, Gulbarga, Karnataka
12. Hubli Electricity Supply Company Limited (HESCOM) Navanagar, PB Road, Hubli, Karnataka
13. MESCOM Corporate Office
Paradigm Plaza, AB Shetty Circle,
Mangalore- 575 001
14. Chamundeswari Electricity Supply Corporation Limited (CESC) #927, L J Avenue, Ground Floor, Saraswatipuram, Mysore- 570 009



15. Electricity Department
Government of Goa, Vidyuti Bhawan, Panaji,
Goa- 403001

....Respondents

The following were present:-

For Petitioner: Shri Jasbir Singh, PGCIL
 Shri S. S. Raju, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri Piyush Awasthi, PGCIL
 Shri S.K. Venkatesan, PGCIL
 Shri M. M. Mondal, PGCIL

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for truing up of capital expenditure and determination of tariff for **Asset:** Augmentation of Hosur Sub-station by 1 x 315 MVA, 400/220 kV, Transformer and associated bays under System Strengthening Scheme – XIV (COD: 1.3.2014) in Southern Region (hereinafter referred as “transmission asset”). The petitioner has filed this petition 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 from COD 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.



2. The respondents are distribution licensees, electricity departments and power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Southern Region.

3. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers 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. The hearing in this matter was held on 10.8.2016. None of the respondents have filed any reply to the petition. The petitioner was directed to file additional information which has been submitted by the petitioner vide affidavit dated 10.8.2016. 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 the transmission project was accorded by the Board of Directors of the petitioner company, vide Memorandum of Ref.: C/CP/SRSS-XIV dated 27.12.2011, at an estimated cost of ₹29733.00 lakh, including IDC of ₹16447.00 lakh (based on 3rd Quarter, 2011 price level). The Revised Cost Estimates for the project was approved vide Memorandum of Ref.: C/CP/RCE-SR dated 23.2.2015, at an estimated cost of ₹34679.00 lakh including IDC of ₹3690.00 lakh at the price level of August 2014. The approved apportioned cost of the instant asset is ₹2164.00 lakh. The instant asset was commissioned on 1.3.2014.



(b) The tariff from COD to 31.3.2014 was determined vide order dated 15.2.2016 in Petition No. 281/TT/2013 for the asset in accordance with the 2009 Tariff Regulations. The tariff allowed for the 2009-14 tariff period is as under:-

(₹ in lakh)

Particulars	Asset
	2013-14 (Pro-rata)
Depreciation	6.70
Interest on Loan	7.19
Return on equity	7.54
Interest on Working Capital	1.39
O & M Expenses	16.91
Total	39.73

(c) The capital cost as on COD of the asset is considered for determination of tariff as given below:-

(₹ in lakh)

Particulars	Capital cost considered before adjustment of IDC and IEDC & initial spares as on COD	Disallowed	Capital cost as on COD allowed for tariff calculation
		IDC and IEDC and excess initial spares as on COD	
	(A)	(B)	(C)= (A)-(B)
Asset	1496.58	72.46	1424.12

(d) 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 petitioner has claimed truing up of 2009-14 tariff period under Clause (3) of the Regulation 6 of the 2009 Tariff Regulations which 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”.

6. 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

7. The petitioner has claimed capital cost of ₹1435.52 lakh for the instant asset as on COD after deducting undischarged IDC of ₹61.06 lakh from ₹1496.58 lakh (as per Auditor's Certificate) for the purpose of truing up of tariff.

8. Regulation 7(1) 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.”

9. The petitioner has submitted the Auditor’s Certificate certifying the capital cost as on COD and additional capitalization claimed thereafter.

10. The petitioner has submitted the actual capital expenditure incurred upto COD and submitted Auditor’s Certificate in support of claim of the capital cost as on COD and additional capitalization claimed from COD to 31.3.2014. In accordance with Regulation 7(1) read with Regulation 6 of the 2009 Tariff Regulations, the actual capital cost incurred is as below:-

(₹ in lakh)	
Particulars	Capital cost considered before adjustment of IDC/IEDC & initial spares as on COD
Asset	1496.58

Cost Over-run

11. The completion cost of the instant asset is ₹1665.12 lakh which is within the approved apportioned costs and hence there is no cost over-run.

Time Over-run

12. As per the investment approval 27.12.2011, the assets were scheduled to be commissioned by 1.9.2014. The actual COD of the asset is 1.3.2014. Accordingly, there is no time over-run in the commissioning of the asset.



Initial Spares

13. The petitioner has claimed initial spares of ₹50.25 lakh pertaining to sub-station. The petitioner has submitted that the initial spares of ₹50.25 lakh pertaining to sub-station has been claimed as 2.38% for sub-station for the instant project and is within the ceiling limit for sub-station in accordance with Regulation 8 of the 2009 Tariff Regulations. The Commission, in its earlier order dated 15.2.2016 in Petition No. 281/TT/2013, has deducted excess initial spares of ₹0.83 lakh from the capital cost as on COD for the Asset.

14. The petitioner has submitted actual capital expenditure for true up of tariff during 2009-14 tariff period as per the 2009 Tariff Regulations and also submitted the estimated capital expenditure for determination of tariff during 2014-19 tariff period in accordance with the 2014 Tariff Regulations. The initial spares have been worked out by considering the additional capital expenditure up to cut-off date by considering the additional capitalization beyond 31.3.2014. The petitioner has claimed the additional capitalization for 2014-19 tariff period in the instant petition and as the cut-off date is 31.3.2016, we have considered the additional capitalization as considered in subsequent Paragraph to work out the initial spares based on the capital cost upto cut-off date.

15. 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:

(iv) Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%

(c) Series Compensation devices and HVDC Station - 3.5%.....”



16. The details of the initial spares claimed and allowed for the asset covered in the instant petition are in the table given below:-

(₹ in lakh)

Description	Cut-off date	Project cost pertaining to transmission line/Sub-station as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 8 of the 2009 Tariff Regulation	Ceiling limit of Initial spares worked out	Excess initial spares claimed
		(a)	(b)	(c)	(d)=((a-b)*c)/(100-c)%	
Sub-station (including PLCC)						
Asset	31.3.2016	2110.46	50.25	2.50%	52.83	0.00

17. The petitioner submitted that as per para 12 of the order dated 15.2.2016 in Petition No. 281/TT/2013, the accrual IDC was not considered while granting tariff as the same was undischarged upto COD. Further, it is submitted that , the total IDC of ₹82.10 lakh , ₹21.04 lakh has been discharged upto COD. The balance IDC of 61.06 lakhs discharged in 2014-15.The petitioner also submitted that entire IEDC has been discharged as on COD for the said asset. Accordingly, the accrual IDC has been deducted from the capital cost as on COD and the same has been considered as part of additional capitalization in addition to the additional capitalization submitted as per Auditor's Certificate during 2014-15.Accordingly, the capital cost as on COD has been worked out after adjusting excess initial spares and IDC discharged after COD as under:-



(₹ in lakh)

Asset	Capital cost claimed as on COD after deducting accrual IDC	Excess initial spares	Capital cost of Asset considered as on COD
	(a)	(b)	(c)=(a)-(b)
Asset	1435.52	0.00	1435.52

Additional Capital Expenditure

18. The petitioner has claimed additional capitalization for tariff period from COD to 31.3.2014 for the asset on account of balance and retention payment towards sub-station within cut-off date i.e. 31.3.2017 under Regulation 9(1)(i) of the 2009 Tariff Regulations.

19. Clause (1), sub-clause(i) of Regulation 9 of the 2009 Tariff 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)

20. The total capital cost (including actual additional capitalization) is within the overall approved cost of the asset. The claim of additional capitalization falls within the meaning of Regulation 9(1) of the 2009 Tariff Regulations and hence, we have allowed additional capitalization under Regulation 9(1)(i) of the 2009 Tariff Regulations as shown in the table below:-



(₹ in lakh)

Particulars	Apportioned approved cost	Capital cost as on COD	Additional Capital Expenditure (2009-14)		Capital cost as on 31.3.2014
			2013-14	Total	
Approved in order dated 15.2.2016 in Petition No. 281/TT/2013	2164.00	1424.12	229.60	229.60	1653.72
Allowed in this order	2164.00	1435.52	229.60	229.60	1665.12

Debt: Equity

21. Clause 1 & 3 of Regulation 12 of the 2009 Tariff Regulations provide as follows:-

“(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:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

.....

(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.”

22. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30 for the asset. The debt:equity ratio of 70:30 as on COD for the instant asset is in accordance with the 2009 Tariff Regulations and is



considered for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

(₹ in lakh)

Particulars	Asset	
	Amount	(%)
Debt	1004.86	70.00
Equity	430.66	30.00
Total	1435.52	100.00

23. With respect to additional capitalization during 2009-14 tariff period, the petitioner has claimed the debt:equity ratio of 70:30 as on COD for the instant asset. As the additional capitalization claimed in tariff period 2009-14 is same as that approved by the Commission in order dated 15.2.2016 in Petition No. 281/TT/2013, therefore, the debt:equity ratio of 70:30 for the same has been considered.

24. The petitioner vide its affidavit dated 10.8.2016 submitted that the actual equity infused for the additional capitalization during the tariff period 2009-14 is in the ratio of 70:30 as per clause 12(3) of 2009 Tariff Regulation.

25. The overall debt equity ratio as on 31.3.2014 for the Asset including additional capitalization is as under:-

(₹ in lakh)

Particulars	Actual capital expenditure during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)
Debt	160.72	70.00	1165.58	70.00
Equity	68.88	30.00	499.54	30.00
Total	229.60	100.00	1665.12	100.00



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. 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)
	2013-14 (pro-rata)
Approved vide order dated 15.2.2016	7.19
As claimed by the petitioner	7.52
Allowed after trued up	7.52

27. The interest on loan has increased due to variation in Capital Cost and increase in actual weighted average rate of interest during 2013-14 tariff period.

Return on Equity (“ROE”)

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

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

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



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

Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case maybe, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

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

29. The petitioner has submitted that MAT rate of 20.961% applicable for 2013-14 was considered in the order dated 15.2.2016 in Petition No. 281/TT/2013 for the asset. As the Commission in its order dated 15.2.2016 in Petition No. 281/TT/2013 had computed RoE for the tariff period 2009-14 on the basis of actual MAT rate applicable during 2009-14, we have considered the same MAT rate for truing up purpose. The petitioner has submitted 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)) %
2013-14	20.961	19.610

30. We have considered the submissions of the petitioner and have approved ROE in accordance with the provisions of the 2009-14 Tariff Regulations.



Accordingly, the ROE as trued up in accordance with the 2009 Tariff Regulations is shown in the table below:-

Particulars	(₹ in lakh)	
	Asset	
	2013-14	
Approved vide order dated 15.2.2016 in Petition 281/TT/2013	7.54	
As claimed by the petitioner	7.60	
Allowed after trued up	7.60	

The variation in return on equity is on account of variation in capital cost as on COD.

Depreciation

31. 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”

32. 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.”



33. Depreciation was worked out in order dated 15.2.2016 in Petition No. 281/TT/2013 for the asset in accordance with Regulation 17 of the 2009 Tariff Regulations.

34. 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 25years 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)
	Asset 2013-14
Approved vide order dated 15.2.2016 in Petition No. 281/TT/2013	6.70
As claimed by the petitioner	6.75
Allowed after trued up	6.75

The variation in depreciation is on account of variation in capital cost as on COD.

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

35. The petitioner has computed O&M Expenses for the asset mentioned in the petition in accordance with the O&M norms for lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 15.2.2016 in Petition No. 281/TT/2013. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-



(₹ in lakh)	
Particulars	2013-14 (pro-rata)
Approved vide order dated 29.1.2015	16.91
As claimed by the petitioner	16.91
Allowed after trued up	16.91

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

37. The petitioner submitted the rate of interest on working capital as 13.20% for the asset for the period from COD to 31.3.2014 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. Rate of interest in working capital is considered on normative basis in accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations. It is calculated equal to State Bank of India Base Rate as applicable as on 1.4.2013 plus 350 basis points. State Bank of India Base Rate on 1.4.2013 was 9.70%. Therefore, interest rate of 13.20% (9.70% plus 350 basis points) for the asset has been considered to work out the interest on working capital in the instant case.



39. The IWC trued up is as under:-

(₹ in lakh)

Particulars	Asset
	2013-14
Maintenance Spares	2.54
O & M expenses	1.41
Receivables	6.70
Total	10.64
Rate of Interest (%)	13.20
Interest	1.40

40. The IWC claimed by the petitioner, allowed and trued up are as follows:-

(₹ in lakh)

Particulars	Asset
	2013-14
Approved vide order dated 15.2.2016 in Petition No. 281/TT/2013	1.39
As claimed by the petitioner	1.41
Allowed after trued up	1.40

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 Asset for the tariff period 2009-14 is summarised below:-

(₹ in lakh)

Particulars	Asset
	2013-14
Gross Block	
Opening Gross Block	1435.52
Additional Capitalization	229.60
Closing Gross block	1665.12
Average Gross block	1550.32
Depreciation	



Particulars	Asset
	2013-14
Rate of Depreciation (%)	5.224
Depreciable Value	1395.29
Elapsed Life of the asset at beginning of the year	0
Weighted Balance Useful life of the asset	25
Remaining Depreciable Value (at the beginning)	1395.29
Depreciation	6.75
Interest on Loan	
Gross Normative Loan	1004.86
Cumulative Repayment upto Previous Year	0.00
Net Loan-Opening	1004.86
Additions	160.72
Repayment during the year	6.75
Net Loan-Closing	1158.84
Average Loan	1081.85
Weighted Average Rate of Interest on Loan (%)	8.3457
Interest	7.52
Return on Equity	
Opening Equity	430.66
Additions	68.88
Closing Equity	499.54
Average Equity	465.10
Return on Equity (Base Rate) (%)	15.50
MAT rate for the respective year (%)	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610
Return on Equity (Pre Tax)	7.60
Interest on Working Capital	
Maintenance Spares	2.54
O & M Expenses	1.41
Receivables	6.70
Total	10.64
Interest	1.40



Particulars	Asset
	2013-14
Annual Transmission Charges	
Depreciation	6.75
Interest on Loan	7.52
Return on Equity	7.60
Interest on Working Capital	1.40
O & M Expenses	16.91
Total	40.19

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

(₹ in lakh)

Asset					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	93.99	105.58	110.21	110.21	110.21
Interest on Loan	101.74	106.18	102.26	92.79	83.46
Return on equity	105.72	119.40	124.76	124.76	124.76
Interest on Working Capital	17.27	18.29	18.79	18.93	19.10
O & M Expenses	186.93	193.13	199.55	206.16	213.01
Total	505.65	542.58	555.57	552.85	550.54

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

(₹ in lakh)

Asset					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	28.04	28.97	29.93	30.92	31.95
O & M expenses	15.58	16.09	16.63	17.18	17.75
Receivables	84.28	90.43	92.60	92.14	91.76
Total	127.90	135.49	139.16	140.24	141.46
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	17.27	18.29	18.79	18.93	19.10



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 cost as on 1.4.2014 of ₹1665.12 lakh after deducting IDC discharged after COD for the instant Asset for the 2014-19 tariff period.

Additional Capital Expenditure

46. The petitioner has proposed additional capital expenditure of ₹263.90 lakh and ₹181.44lakh in 2014-15 and 2015-16, respectively for the Asset, towards balance and retention payments under Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations.

47. Clause 1, sub-clause (i) of Regulation 14 of the 2014 Tariff Regulations provides as follows:

“(1) The capital expenditure in respect of the new project or an existing project



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

.....

(i) Undischarged liabilities recognized to be payable at a future date;

48. The petitioner was directed, to confirm whether all the balance/retention payments for assets under this Petition have been claimed or some payments are still to be claimed. In response, the petitioner, vide affidavit dated 10.8.2016, has submitted the details of balance and retention payment claimed under additional capital expenditure. Further, the petitioner vide its affidavit dated 10.8.2016 submitted that the additional capital expenditure of ₹181.44 lakh has been projected during 2015-16 against which the actual expenditure will be submitted at the time of true up.

49. The total capital cost of the transmission asset including additional capitalization incurred during the 2014-19 tariff period is within the approved apportioned cost of the asset. It is observed that the additional capitalization proposed is towards balance and retention payments due to undischarged liabilities for works executed within cut-off date. Accordingly, the capital cost claimed by the petitioner is allowed in accordance with Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations for period 2014-16. The additional capitalisation for tariff period 2014-19 shall be finally approved after the detailed scrutiny of additional capitalisation while carrying out the true up for 2014-19 tariff period.

50. The total capital cost of the transmission asset including additional capitalization projected to be incurred during 2014-19 is shown below:-



(₹ in lakh)

Particulars	Approved Apportioned Cost	Admitted capital cost as on 31.3.2014	Additional capital Expenditure			Total capital cost including additional capitalization
			2014-15	2015-16	Total	
Asset	2164.00	1665.12	263.90	181.44	445.34	2110.46

Debt:Equity Ratio

51. 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.”

52. The petitioner has considered debt:equity ratio as 70:30 as on 31.3.2014. The admitted 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	Asset-I	
	Amount	(%)
Debt	1165.58	70.00
Equity	499.54	30.00
Total	1665.12	100.00

The petitioner vide its affidavit dated 10.8.2016 submitted that the additional capital expenditure for the period 2014-15 and 2015-16 of ₹263.9 lakh and ₹181.44 lakh respectively, 70% loan has been deployed, and 30% of equity is infused as per the 2014 Tariff Regulations.



53. For additional capitalization, the petitioner has proposed debt:equity ratio of 70:30 for period 2014-16 and the same has been considered. The details of the debt:equity including additional capitalization as on 31.3.2019 is as follows:-

(₹ in lakh)

Particulars	Additional Capital Expenditure during 2014-16		As on 31.3.2019	
	Amount	(%)	Amount	(%)
Debt	311.74	70.00	1477.32	70.00
Equity	133.60	30.00	633.14	30.00
Total	445.34	100.00	2110.46	100.00

Interest on Loan (“IOL”)

54. 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.”

55. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest is placed at **Annexure-II** and the IOL has been worked out and allowed as follows:-



(₹ in lakh)

Asset					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	1165.58	1350.31	1477.32	1477.32	1477.32
Cumulative Repayment up to previous year	6.75	100.74	206.31	316.52	426.72
Net Loan-Opening	1158.84	1249.57	1271.01	1160.81	1050.60
Additions during the year	184.73	127.01	0.00	0.00	0.00
Repayment during the year	93.99	105.57	110.20	110.20	110.20
Net Loan-Closing	1249.57	1271.01	1160.81	1050.60	940.40
Average Loan	1204.20	1260.29	1215.91	1105.70	995.50
Rate of Interest (%)	8.4489	8.4250	8.4103	8.3919	8.3843
Interest	101.74	106.18	102.26	92.79	83.47

Return on Equity (“ROE”)

56. 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.”



57. The petitioner has submitted ROE at the rate of 19.610% for tariff period 2014-15 after grossing up the ROE of 15.50% with MAT rate of 20.961% as per the above regulation. Further, the petitioner has submitted ROE at the rate of 19.705% for tariff period 2015-19 after grossing up the ROE of 15.50% with MAT rate of 21.34%. 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.

58. 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.

59. 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. The grossed up ROE considered for computation of tariff is 19.610%. Hence, the ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)					
Asset					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	499.54	578.71	633.14	633.14	633.14
Additional Capitalization	79.17	54.43	0.00	0.00	0.00
Closing Equity	578.71	633.14	633.14	633.14	633.14
Average Equity	539.12	605.92	633.14	633.14	633.14
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.96	20.96	20.96	20.96
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	105.72	118.82	124.16	124.16	124.16

Depreciation

60. 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.”

61. The petitioner has computed depreciation considering capital expenditure of ₹1665.12 lakh as on 31.3.2014 with additional capitalization of ₹445.34 lakh for the 2014-19 tariff period. The weighted average useful life of 25 years has been considered in accordance to Regulation 26 of the 2014 Tariff Regulations considering actual COD and capital cost of all the elements of the transmission system for working out the depreciation for the assets.

62. We have considered the submissions of the petitioner. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Asset					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	1665.12	1929.02	2110.46	2110.46	2110.46
Additional Capitalization	263.90	181.44	0.00	0.00	0.00
Gross block at the end of the year	1929.02	2110.46	2110.46	2110.46	2110.46
Average gross block	1797.07	2019.74	2110.46	2110.46	2110.46
Rate of Depreciation (%)	5.230	5.227	5.222	5.222	5.222
Depreciable Value	1617.36	1817.77	1899.41	1899.41	1899.41
Elapsed Life of the assets at beginning of the year	1	2	3	4	5
Weighted Balance Useful life of the assets	24	23	22	21	20
Remaining Depreciable Value	1610.61	1717.03	1693.10	1582.90	1472.69
Depreciation	93.99	105.57	110.20	110.20	110.20



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

63. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. The petitioner has computed O&M Expenses for the assets mentioned in the petition, in accordance with the O&M norms for 400 kV Bay and 220 kV Bay as specified in Regulation 19(g) of the 2009 Tariff Regulations. The petitioner has claimed O&M Expenses for one 400 kV Bay and three 220kV Bays for substation. Accordingly, the petitioner’s entitlement to O&M Expenses has been worked out as given hereunder:-

Particulars		2014-15	2015-16	2016-17	2017-18	2018-19
Actual	400 kV Bays (Nos)	1	1	1	1	1
	220 kV Bays (Nos)	3	3	3	3	3
Norms as per Regulation	400 kV Bays (₹ lakh/bay)	60.30	62.30	64.37	66.51	68.71
	220 kV Bays (₹ in lakh)	42.21	43.61	45.06	46.55	48.10
Total (₹ in lakh)		186.93	193.13	199.55	206.16	213.01

Interest on Working Capital (“IWC”)

64. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

(i) Receivables

As per Regulation 28(1)(c)(i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being



allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance Spares

Regulation 28(1)(c)(ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

(iii) O & M Expenses

Regulation 28(1)(c)(iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M expenses for the instant asset and value of O & M expenses has accordingly been worked out by considering 1 month O&M Expenses.

(iv) Rate of interest on working capital

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the 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. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

65. The interest on working capital allowed is shown in the table below:-

(₹ in lakh)

Particulars	Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	28.04	28.97	29.93	30.92	31.95
O & M Expenses	15.58	16.09	16.63	17.18	17.75
Receivables	84.28	90.33	92.49	92.04	91.65
Total	127.89	135.39	139.05	140.14	141.36
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	17.27	18.28	18.77	18.92	19.08

Annual Transmission Charges

66. 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	Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	1665.12	1929.02	2110.46	2110.46	2110.46
Additional Capitalization	263.90	181.44	0.00	0.00	0.00
Closing Gross Block	1929.02	2110.46	2110.46	2110.46	2110.46
Average Gross Block	1797.07	2019.74	2110.46	2110.46	2110.46
Depreciation					



Particulars	Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Depreciation	5.230	5.227	5.222	5.222	5.222
Depreciable Value	1617.36	1817.77	1899.41	1899.41	1899.41
Elapsed Life of the assets at beginning of the year	1	2	3	4	5
Weighted Balance Useful life of the assets	24	23	22	21	20
Remaining Depreciable Value	1610.61	1717.03	1693.10	1582.90	1472.69
Depreciation	93.99	105.57	110.20	110.20	110.20
Interest on Loan					
Gross Normative Loan	1165.58	1350.31	1477.32	1477.32	1477.32
Cumulative Repayment upto Previous Year	6.75	100.74	206.31	316.52	426.72
Net Loan-Opening	1158.84	1249.57	1271.01	1160.81	1050.60
Additions	184.73	127.01	0.00	0.00	0.00
Repayment during the year	93.99	105.57	110.20	110.20	110.20
Net Loan-Closing	1249.57	1271.01	1160.81	1050.60	940.40
Average Loan	1204.20	1260.29	1215.91	1105.70	995.50
Weighted Average Rate of Interest on Loan (%)	8.4489	8.4250	8.4103	8.3919	8.3843
Interest	101.74	106.18	102.26	92.79	83.47
Return on Equity					
Opening Equity	499.54	578.71	633.14	633.14	633.14
Additions	79.17	54.43	0.00	0.00	0.00
Closing Equity	578.71	633.14	633.14	633.14	633.14
Average Equity	539.12	605.92	633.14	633.14	633.14
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
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)	105.72	118.82	124.16	124.16	124.16
Interest on Working Capital					
Maintenance Spares	28.04	28.97	29.93	30.92	31.95
O & M expenses	15.58	16.09	16.63	17.18	17.75
Receivables	84.28	90.33	92.49	92.04	91.65



Particulars	Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
Total	127.89	135.39	139.05	140.14	141.36
Interest	17.27	18.28	18.77	18.92	19.08
Annual Transmission Charges					
Depreciation	93.99	105.57	110.20	110.20	110.20
Interest on Loan	101.74	106.18	102.26	92.79	83.47
Return on Equity	105.72	118.82	124.16	124.16	124.16
Interest on Working Capital	17.27	18.28	18.77	18.92	19.08
O & M Expenses	186.93	193.13	199.55	206.16	213.01
Total	505.65	541.98	554.95	552.23	549.92

Filing Fee and Publication Expenses

67. 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 is 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

68. 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



69. 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

70. 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.

71. This order disposes of Petition No. 96/TT/2016.

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

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2009-14

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.3.2014	Additions during the tariff period	Total
SBI (21.3.2012)-ADDCAP FOR 2013-2014	10.25	0.00	160.72	160.72
Bond XL-DOCO Loan 1-	9.30	113.00	0.00	113.00
Bond – XLI-DOCO Loan 2-	8.85	119.00	0.00	119.00
Bond-XLIII-DOCO Loan 3-	7.93	772.86	0.00	772.86
Total		1004.86	160.72	1165.58

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2009-14

(₹ in lakh)

Particulars	2013-14
Gross Opening Loan	1004.86
Cumulative Repayments of Loans upto Previous Year	0.00
Net Loans Opening	1004.86
Add: Drawal(s) during the year	160.72
Less: Repayment(s) of Loan during the year	0.00
Net Closing Loan	1165.58
Average Net Loan	1085.22
Rate of Interest on Loan (%)	8.3457
Interest on Loan	90.57



ANNEXURE-II

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
SBI (21.2.2012)-ADDCAP FOR 2013-14 Add cap for 2013-14-	10.25	0.00	160.72	160.72
BOND XL-DOCO Loan 1-	9.30	113.00	0.00	113.00
Bond – XLI-DOCO Loan 2-	8.85	119.00	0.00	119.00
Bond – XLIII-ADDCAP FOR 2014-2015 Add cap for 2014-15 Accrual IDC	7.93	0.00	42.74	42.74
Bond – XLIII-DOCO Loan 3-	7.93	772.86	0.00	772.86
BOND XLIX-ADDCAP FOR 2014-2015 Add cap for 2014-15-	8.15	0.00	141.99	141.99
Total		1004.86	345.45	1350.31

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1165.58	1350.31	1350.31	1350.31	1350.31
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	33.95	135.87
Net Loans Opening	1165.58	1350.31	1350.31	1316.36	1214.44
Add: Drawal(s) during the year	184.73	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	0.00	33.95	101.92	101.92
Net Closing Loan	1350.31	1350.31	1316.36	1214.44	1112.52
Average Net Loan	1257.95	1350.31	1333.34	1265.40	1163.48
Rate of Interest on Loan (%)	8.4489	8.4250	8.4103	8.3919	8.3843
Interest on Loan	106.28	113.76	112.14	106.19	97.55

