

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 425/TT/2014

Coram:

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

**Date of Hearing : 21.12.2015
Date of Order : 25.01.2016**

In the matter of:

Truing up of transmission tariff for 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 Kawas Transmission System in Western Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

Versus

1. Madhya Pradesh Power Management Company Ltd.
Shakti Bhawan, Rampur, Jabalpur-482008
2. Maharashtra State Electricity Distribution Co. Ltd.
Prakashgad, 4th Floor, Bandra(East), Mumbai-400052
3. Gujarat UrjaVikas Nigam Ltd.
Sardar Patel VidyutBhawan,
Race Course Road
Vadodara- 390007



4. Electricity Department
Govt. of Goa,
VidyutBhawan, Panaji- 403001
 5. Electricity Department
Administration of Daman & Diu,
Daman- 396210
 6. Electricity Department
Administration of Dadra Nagar Haveli,
U.T., Silvassa- 396230
 7. Chhattisgarh State Electricity Board
P.O Sunder Nagar, Dangania, Raipur
Chhattisgarh-492013
 8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay Road
Indore-452008
-**Respondents**

The following were present:-

For Petitioner: Shri S.K Venkatesan, PGCIL
 Shri M.M Mondal, PGCIL
 Shri Avinash M. Pavgi, PGCIL
 Shri Piyush Awasthi, PGCIL
 Shri Anshul Garg, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri S.S Raju, PGCIL
 Shri J. Mazumder, PGCIL
 Shri Shashi Bhusan, PGCIL

For Respondent: None

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner"), a transmission licensee, for truing up of capital expenditure and tariff for Kawas Transmission System in Western Region (hereinafter referred as "transmission asset") 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.

2. The respondents are distribution licensees and transmission 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 this matter was held on 21.12.2015. 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 tariff of the transmission system from 1.4.2004 to 31.3.2009 was allowed vide order dated 26.10.2005 in Petition No. 114/2004 in accordance with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004. Further, the tariff was revised vide



consequential order dated 14.3.2008 in Petition No. 114/2004 as per the Judgment of the Appellate Tribunal for Electricity (ATE) dated 16.5.2007 in Appeal No. 121 of 2005.

(b) The tariff for the 2009-14 period was allowed vide order dated 25.2.2011 in Petition No. 110/2009 in accordance with the 2009 Tariff Regulations.

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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	57.14	57.14	57.14	57.14	57.14
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on equity	274.43	274.43	274.43	274.43	274.43
Interest on Working Capital	20.17	20.92	21.73	22.57	23.47
O & M Expenses	265.00	280.11	296.27	313.15	331.03
Total	616.73	632.60	649.57	667.29	686.07

(c) The Commission, vide order dated 25.2.2011 in Petition No. 110/2009, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹3139.72 lakh as on 31.3.2009.

(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.

(e) The instant petition was filed on 28.10.2014.



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.

Capital Cost

6. The petitioner has claimed admitted capital cost of ₹3139.72 lakh as on 31.3.2009 for the purpose of tariff.

7. Last proviso to Clause (2) of Regulation 7 of the 2009 Tariff Regulations provides that:-

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding undischarged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff.”

8. The capital cost admitted as on 31.3.2009 vide order dated 14.3.2008 in Petition No. 114/2004 has been considered as the opening capital cost as on 1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations. The admitted capital cost of ₹3139.72 lakh as on 31.3.2009 has been considered to work out the trued up tariff for the tariff period 2009-14.

Additional Capital Expenditure

9. The petitioner has not claimed any additional capitalization for the tariff period 2009-14. Accordingly, no additional capital expenditure has been considered for the 2009-14 tariff period.



Debt: Equity

10. Clause 2 of Regulation 12 of the 2009 Tariff Regulations provides that:-

“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.”

11. The petitioner has claimed trued up Annual Fixed Charge based on debt-equity ratio of 50:50 as on 31.3.2009, admitted by the Commission in its order dated 25.2.2011 in Petition No. 110/2009, as opening debt:equity ratio as on 1.4.2009. The transmission assets covered in the instant petition are existing assets, as the COD is prior to 1.4.2009. The admitted debt:equity ratio of 50:50 as on 31.3.2009 has been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

(₹ in lakh)		
Funding	Amount	(%)
Debt	1569.86	50.00
Equity	1569.86	50.00
Total	3139.72	100.00

Interest on Loan (“IOL”)

12. The petitioner has not claimed any interest on loan for the tariff period 2009-14 as the entire loan has already been repaid prior to 1.4.2009. Accordingly, IOL has been considered as NIL for the purpose of truing up of tariff.

Return on Equity (“ROE”)

13. 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 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 tried up in accordance with Regulation 6 of these regulations.”

14. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 25.2.2011. However, for triuing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

Particulars	MAT Rate (t) %	Grossed up ROE (Base rate/(1-t)) %
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610



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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 25.2.2011	274.43	274.43	274.43	274.43	274.43
As claimed by petitioner	293.16	303.89	304.19	304.19	307.85
Allowed after true up	293.16	303.89	304.19	304.19	307.85

The variation in return on equity is due to increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

Depreciation

16. 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”

17. 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.”

18. The depreciation is being dealt in accordance with Regulation 17 of the 2009 Tariff Regulations. The weighted average useful life of the transmission



asset has been considered as per Regulation 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 35 years. 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:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 25.2.2011	57.14	57.14	57.14	57.14	57.14
As claimed by petitioner	57.14	57.14	57.15	57.13	57.15
Allowed after true up	57.14	57.14	57.14	57.14	57.14

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

19. The petitioner has computed O&M expenses for the assets mentioned in the petition and in accordance with the O&M norms for lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses have been worked out as given in the table below:-

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
O&M Expense for line					
Norm (₹ lakh/km)					
Double Circuit (Single Conductor)	0.269	0.284	0.301	0.318	0.336
Transmission Lines (km)					
220 kV Kawas-Navasari I & II D/C line	49.00	49.00	49.00	49.00	49.00
220 kV Kawas-Haldarwa, Ckt-I D/C line	40.50	40.50	40.50	40.50	40.50
220 kV Kawas-Haldarwa, Ckt-II D/C line	40.50	40.50	40.50	40.50	40.50
220 kV Kawas-Ichchapur-Vav D/C line	37.00	37.00	37.00	37.00	37.00
Total O&M Expense (line) (₹lakh)	44.92	47.43	50.27	53.11	56.11
O&M Expense for Bay					



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Norm (₹lakh/Bay)					
220 kV	36.68	38.78	41.00	43.34	45.82
Bays					
220 kV	6	6	6	6	6
Total O&M expense (Bay) (₹lakh)	220.08	232.68	246.00	260.04	274.92
Total O&M expense (Line and bays) (₹ lakh)	265.00	280.11	296.27	313.15	331.03

20. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 25.2.2011 in Petition No. 110/2009. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 25.2.2011	265.00	280.11	296.27	313.15	331.03
As claimed by petitioner	265.00	280.11	296.27	313.15	331.03
Allowed after true up	265.00	280.11	296.27	313.15	331.03

Interest on working capital("IWC")

21. 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.

22. The petitioner has submitted that the rate of interest on working capital has been considered as 12.25% 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.

23. The Commission, vide order dated 25.2.2011 in Petition No. 110/2009, has approved rate of interest on working capital as 12.25% as applicable for 2008-09. In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to work out the interest on working capital in the instant case.

24. The IWC trued up is as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	39.75	42.02	44.44	46.97	49.65
O & M expenses	22.08	23.34	24.69	26.10	27.59
Receivables	105.98	110.45	113.32	116.28	120.03
Total	167.81	175.80	182.45	189.35	197.27
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
Interest	20.56	21.54	22.35	23.19	24.17

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 25.2.2011	20.17	20.92	21.73	22.57	23.47
As claimed by petitioner	20.56	21.54	22.35	23.20	24.17
Allowed after true up	20.56	21.54	22.35	23.19	24.17



25. The variation in IWC is on account of increase in receivables due to variation in ROE on account of applicable MAT rate during 2009-14 tariff period.

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

26. 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:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block					
Gross Opening Block	3139.72	3139.72	3139.72	3139.72	3139.72
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross Closing Block	3139.72	3139.72	3139.72	3139.72	3139.72
Average Gross Block	3139.72	3139.72	3139.72	3139.72	3139.72
Depreciation					
Rate of Depreciation (%)	1.820	1.820	1.820	1.820	1.820
Depreciable Value	2825.75	2825.75	2825.75	2825.75	2825.75
Elapsed Life (Beginning of the year)	17	18	19	20	21
Weighted Balance Useful life of the assets	18	17	16	15	14
Remaining Depreciable Value	1028.52	971.38	914.24	857.10	799.96
Depreciation	57.14	57.14	57.14	57.14	57.14
Cumulative Depreciation	1854.37	1911.51	1968.65	2025.79	2082.93
Interest on Loan					
Gross Normative Loan	-	-	-	-	-
Cumulative Repayment upto Previous Year	-	-	-	-	-
Net Loan-Opening	-	-	-	-	-
Addition due to Additional Capitalisation	-	-	-	-	-
Repayment during the year	-	-	-	-	-
Net Loan-Closing	-	-	-	-	-
Average Loan	-	-	-	-	-
Weighted Average Rate of Interest on Loan	-	-	-	-	-



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Interest	-	-	-	-	-
Return on Equity					
Opening Equity	1569.86	1569.86	1569.86	1569.86	1569.86
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	1569.86	1569.86	1569.86	1569.86	1569.86
Average Equity	1569.86	1569.86	1569.86	1569.86	1569.86
Return on Equity (Base Rate)(%)	15.50	15.50	15.50	15.50	15.50
Tax rate for the year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	293.16	303.89	304.19	304.19	307.85
Interest on Working Capital					
Maintenance Spares	39.75	42.02	44.44	46.97	49.65
O & M expenses	22.08	23.34	24.69	26.10	27.59
Receivables	105.98	110.45	113.32	116.28	120.03
Total	167.81	175.80	182.45	189.35	197.27
Interest	20.56	21.54	22.35	23.19	24.17
Annual Transmission Charges					
Depreciation	57.14	57.14	57.14	57.14	57.14
Interest on Loan	-	-	-	-	-
Return on Equity	293.16	303.89	304.19	304.19	307.85
Interest on Working Capital	20.56	21.54	22.35	23.19	24.17
O & M Expenses	265.00	280.11	296.27	313.15	331.03
Total	635.86	662.68	679.95	697.67	720.19

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	57.76	58.42	58.41	60.29	62.36
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on equity	308.37	308.89	308.89	310.11	311.34
Interest on Working Capital	25.21	25.80	26.38	27.04	27.74
O & M Expenses	303.86	313.93	324.47	335.08	346.38



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Total	695.20	707.04	718.15	732.52	747.82

28. 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	45.58	47.09	48.67	50.26	51.96
O & M expenses	25.32	26.16	27.04	27.92	28.87
Receivables	115.87	117.84	119.69	122.09	124.64
Total	186.77	191.09	195.40	200.27	205.46
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	25.21	25.80	26.38	27.04	27.74

Capital Cost

29. 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.”

30. The petitioner has claimed capital expenditure of ₹3139.72 lakh as on 31.3.2014. Further, the petitioner has also projected net additional capital expenditure of ₹59.26 lakh during the tariff period 2014-19. The trued up capital cost of ₹3139.72 lakh as on 31.3.2014 is considered to workout tariff for tariff period 2014-19.



Additional Capital Expenditure

31. Clause 3(vii) and Clause 3(ix) of Regulation 14 of the 2014 Tariff

Regulations provides as follows:

“(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal/lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level”;

“(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system”

32. The petitioner has claimed additional capitalization of ₹19.91 lakh and de-capitalisation of ₹2.25 lakh on account of replacement of Current Transformers (CTs) at 220 kV Haldarwa Substation (GETCO) during 2014-15 and additional capitalization of ₹60.00 lakh and de-capitalisation of ₹18.40 lakh on account of replacement of Circuit Breakers (CBs) at 220 kV Vav Sub-station (GETCO) during 2017-18. The additional capitalization has been claimed under Clause 3(vii) and 3(ix) of Regulation 14 of the 2014 Tariff Regulations beyond cut-off date.

33. The petitioner has submitted that CTs and CBs of the Kawas Transmission System were commissioned during 1992 and some of these



equipments have worn out, leading to frequent faults and repair, making it necessary to replace them in a progressive manner so that the system is not affected and also for the smooth functioning of the system. Further, the transmission network was expanded over a period of time. In this context, the petitioner has submitted the copy of letter dated 14.5.2013 from Gujarat Energy Transmission Corporation Ltd ('GETCO'), State Transmission Utility informing that the fault level of Haldarwa Sub-station has been increased upto 42.3 kA. In order to make the sub-station equipment compatible with the fault level of transmission system, the GETCO has suggested to the petitioner to undertake replacement of existing 220 kV CTs installed at Haldarwa Sub-station with CTs having short circuit rating of more than 40 kA as the fault level.

34. With respect to Circuit Breakers (CB) installed at Haldarwa Sub-station, Navasari Sub-station, and Vav (GETCO), the petitioner has submitted that CBs are going under low SF6/air pressure lockouts due to SF6 and air leakages of drive mechanism. Heavy SF6 gas leakage problems are repeatedly occurring even after attended by M/s ABB, OEM. This may lead to higher SF6 gas consumption and potential environmental hazard also. The spare of these CBs are not easily available and takes very long time. The petitioner has further submitted that they have recently awarded procurement of 5 number of density monitors to M/S ABB costing ₹10.94 lakh for the gas filling arrangement in individual pole of the CBs. Later on they realized that material and service provided by the manufacturer for such small work are too costly in comparison to new CB, which costs around ₹15.41 lakh/CB including supply, erection, F&I etc.



The petitioner also submitted that it has become very difficult to meet out the regular and frequent maintenance of these CBs, which have become very old and may result into sudden and prolonged outages and system risk. In view of the above, the petitioner has proposed to replace these CBs with new CBs for smooth and reliable operation of the grid. The petitioner vide affidavit dated 23.12.2015 submitted that over a period of time, a number of additions have taken place in the Western Regional grid, thereby giving a rise in the short circuit level of various buses in the regional transmission network. Due to such rise in the short circuit level, the terminal equipment at the Sub-station had to be upgraded to meet the functional requirements of power system network. The switchyard equipments are thus being replaced due to increase of fault level. The petitioner also submitted that Sub-station equipments, which are proposed and planned to be replaced are situated in the premises of M/s. GETCO Sub-station who have requested the petitioner vide letter dated 26.11.2012 and 14.5.2013 to replace the Sub-station equipments due to increase in fault level.

35. We have considered the submissions of the petitioner with respect to additional capital expenditure. The additional capitalization is towards replacement of problematic/defective CTs and CBs, which has become essential for reliable operations. Further, the petitioner has also submitted a copy of correspondence from GETCO towards replacement of CTs. The additional capitalisation has become necessary for successful and efficient operation of the transmission system and hence it is approved under Regulation 14(3)(ix) of the 2014 Tariff Regulations.



(₹ in lakh)

Admitted 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 Add Cap (net of De -cap) 2014-19
	Add Cap	De-Cap	Add Cap	Add Cap	Add Cap	De-Cap	Add Cap		
3139.72	19.91	2.25	0.00	0.00	60.00	18.40	0.00	59.26	3198.98

Debt:EquityRatio

36. 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.”

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

Particulars	Amount (in ₹ lakh)	(%)
Debt	1569.86	50.00
Equity	1569.86	50.00
Total	3139.72	100.00

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



Particulars	Amount (in ₹ lakh)	(%)
Debt	1611.34	50.37
Equity	1587.64	49.63
Total	3198.98	100.00

Interest on Loan (“IOL”)

39. The petitioner has not claimed any interest on loan for the tariff period 2014-19 as the complete loan has already been repaid before the tariff period 2014-19. As regards additional capital expenditure projected during the tariff period 2014-19, the petitioner has submitted that the funding has been done through debt:equity ratio of 70:30 and it has claimed debt corresponding to 70% of the additional capitalisation. The Commission observes that the petitioner has not claimed any interest on loan as the loan amount added corresponding to year-wise additional capitalisation is less than the depreciation allowed for the respective years and therefore, the same is getting repaid in the same year. The petitioner has therefore, not claimed any IOL during 2014-19 tariff period. Accordingly, Interest on Loan has been considered as NIL for the purpose of tariff.

Return on Equity (“ROE”)

40. 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:

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.”

41. 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.

42. 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.

43. 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	1569.86	1575.16	1575.16	1575.16	1587.64
Addition due to Additional Capitalisation	5.30	0.00	0.00	12.48	0.00
Closing Equity	1575.16	1575.16	1575.16	1587.64	1587.64
Average Equity	1572.51	1575.16	1575.16	1581.40	1587.64
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	308.37	308.89	308.89	310.11	311.34

Depreciation

44. 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.”

45. The petitioner has computed depreciation considering capital expenditure of ₹3139.72 lakh as on 31.3.2014 and projected net additional capitalization of ₹59.26 lakh for the tariff period 2014-19.

46. We have considered the submission made by the petitioner with reference to depreciation. It is observed that while computing depreciation the petitioner has not adjusted accumulated depreciation of the de-capitalized asset and has claimed depreciation accordingly.

47. 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	3139.72	3157.38	3157.38	3157.38	3198.98
Additional Capitalisation	17.66	0.00	0.00	41.60	0.00
Gross block at the end of the year	3157.38	3157.38	3157.38	3198.98	3198.98
Average gross block	3148.55	3157.38	3157.38	3178.18	3198.98
Rate of Depreciation (%)	1.834	1.850	1.850	1.897	1.950
Depreciable Value	2833.70	2841.64	2841.64	2860.36	2879.08
Elapsed Life of the assets at beginning of the year	22	23	24	25	26



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Weighted Balance Useful life of the assets	13	12	11	10	9
Remaining Depreciable Value	750.77	700.96	642.55	602.86	561.29
Depreciation	57.75	58.41	58.41	60.29	62.37

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

48. 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	2009-10	2010-11	2011-12	2012-13	2013-14
O&M Expense for line					
Norm (₹ lakh/km)					
Double Circuit (Single Conductor)	0.303	0.313	0.324	0.334	0.346
Asset (km)					
220 kV Kawas-Navasari I & II D/C line	49.00	49.00	49.00	49.00	49.00
220 kV Kawas-Haldarwa, Ckt-I D/C line	40.50	40.50	40.50	40.50	40.50
220 kV Kawas-Haldarwa, Ckt-II D/C line	40.50	40.50	40.50	40.50	40.50
220 kV Kawas-Ichchapur-Vav D/C line	37.00	37.00	37.00	37.00	37.00
Total O&M Expense (line) (₹lakh)	50.60	52.27	54.11	55.78	57.78
O&M Expense for Bay					
Norm (₹lakh/Bay)					
220 kV	42.21	43.61	45.06	46.55	48.10
Bays					
220 kV	6	6	6	6	6
Total O&M expense (Bay) (₹lakh)	253.26	261.66	270.36	279.30	288.60
Total O&M expense (Line and bays) (₹ lakh)	303.86	313.93	324.47	335.08	346.38



49. 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.

50. 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.

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

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	303.86	313.93	324.47	335.08	346.38

Interest on Working Capital (“IWC”)

52. 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;”

53. 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%.

54. 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	45.58	47.09	48.67	50.26	51.96
O & M expenses	25.32	26.16	27.04	27.92	28.87
Receivables	115.87	117.84	119.69	122.09	124.64
Total	186.77	191.09	195.40	200.27	205.46
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	25.21	25.80	26.38	27.04	27.74



Annual Transmission Charges

55. 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
Gross Block					
Opening Gross Block	3139.72	3157.38	3157.38	3157.38	3198.98
Additional Capitalisation	17.66	0.00	0.00	41.60	0.00
Closing Gross Block	3157.38	3157.38	3157.38	3198.98	3198.98
Average Gross Block	3148.55	3157.38	3157.38	3178.18	3198.98
Depreciation					
Rate of Depreciation (%)	1.834	1.850	1.850	1.897	1.950
Depreciable Value	2833.70	2841.64	2841.64	2860.36	2879.08
Elapsed Life (Beginning of the year)	22	23	24	25	26
Weighted Balance Useful life of the assets	13	12	11	10	9
Remaining Depreciable Value	750.77	700.96	642.55	602.86	561.29
Depreciation	57.75	58.41	58.41	60.29	62.37
Cumulative Depreciation	2140.68	2199.09	2257.51	2317.79	2380.16
Interest on Loan					
Gross Normative Loan	-	-	-	-	-
Cumulative Repayment upto Previous Year	-	-	-	-	-
Net Loan-Opening	-	-	-	-	-
Additions	-	-	-	-	-
Repayment during the year	-	-	-	-	-
Net Loan-Closing	-	-	-	-	-
Average Loan	-	-	-	-	-
Weighted Average Rate of Interest on Loan	-	-	-	-	-
Interest	-	-	-	-	-
Return on Equity					
Opening Equity	1569.86	1575.16	1575.16	1575.16	1587.64
Additions	5.30	0.00	0.00	12.48	0.00



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Closing Equity	1575.16	1575.16	1575.16	1587.64	1587.64
Average Equity	1572.51	1575.16	1575.16	1581.40	1587.64
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)	308.37	308.89	308.89	310.11	311.34
Interest on Working Capital					
Maintenance Spares	45.58	47.09	48.67	50.26	51.96
O & M expenses	25.32	26.16	27.04	27.92	28.87
Receivables	115.87	117.84	119.69	122.09	124.64
Total	186.77	191.09	195.40	200.27	205.46
Interest	25.21	25.80	26.38	27.04	27.74
Annual Transmission Charges					
Depreciation	57.75	58.41	58.41	60.29	62.37
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	308.37	308.89	308.89	310.11	311.34
Interest on Working Capital	25.21	25.80	26.38	27.04	27.74
O & M Expenses	303.86	313.93	324.47	335.08	346.38
Total	695.19	707.03	718.15	732.51	747.82

Filing Fee and Publication Expenses

56. 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

57. 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

58. 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.

Deferred Tax Liability

59. 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 under Regulation 49 of the 2014 Tariff Regulations. The deferred tax liability shall be dealt as per Regulation 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 materializes, directly from the beneficiaries or long term transmission customers /DICs.



Sharing of Transmission Charges

60. 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.

61. This Order disposes of Petition No. 425/TT/2014.

sd/-

(Dr. M. K. Iyer)
Member

sd/-

(A.S. Bakshi)
Member

