

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 424/TT/2014

Coram:

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

**Date of Hearing : 21.12.2015
Date of Order : 30.12.2015**

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for Kakrapar Transmission System in Western Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

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, Andheri (East), Mumbai-400052
3. Gujarat Urja Vikas Nigam Ltd.
Sardar Patel Vidyut Bhawan,
Race Course Road
Vadodara- 390007
4. Electricity Department
Govt. Of GOA,
Vidyut Bhawan, Panaji- 403001



5. Electricity Department
Administration of Daman & Diu,
Daman- 396210
 6. Electricity Department
Administration of Dadar Nagar Haveli,
U.T., Silvassa- 396230
 7. Chhattisgarh State Electricity Board
P.O Sunder Nagar, Dangania, Raipur
Chhatisgaarh-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 Kakrapar 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 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 or centralised power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of 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 investment approval for Kakrapar Transmission System in Western Region was accorded by the Department of Atomic Energy, Government of India, vide letter dated 24.1.1991 at an estimated cost of ₹5700.00 lakh. The implementation of the transmission system was commenced by Nuclear Power Corporation, but was subsequently completed by the



petitioner. The transmission asset was put under commercial operation progressively from December, 1992 to August, 1993.

- b. The transmission tariff for the period from 1.4.2004 to 31.3.2009 was allowed vide order dated 9.10.2005 in Petition No. 115/2004 and same were subsequently revised by the Commission vide order dated 14.3.2008 by way of implementation of the Judgment of the Hon'ble Appellate Tribunal for Electricity dated 16.5.2007 in Appeal No. 121 of 2005.
- c. The Commission, in its order dated 11.3.2011 in Petition No. 111/2009 and I.A No. 6/2010, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹4971 lakh as on 31.3.2009 in accordance with the 2009 Tariff Regulations. The tariff allowed vide order dated 11.3.2011 for the tariff period 2009-14 is as under:-

| (₹ in lakh) | | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 96.87 | 96.87 | 96.87 | 96.87 | 96.87 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 434.49 | 434.49 | 434.49 | 434.49 | 434.49 |
| Interest on working capital | 25.23 | 26.04 | 26.90 | 27.80 | 28.76 |
| O & M expenses | 283.03 | 299.14 | 316.43 | 334.45 | 353.54 |
| Total | 839.62 | 856.54 | 874.69 | 893.61 | 913.66 |

- d. The MAT rate applicable during 2008-09 was considered to arrive at the 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 the tariff period 2009-14 has been determined as discussed below:-

Capital Cost

6. The petitioner has claimed admitted capital cost of ₹4971 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 11.3.2011 in Petition No. 111/2009 with I.A No. 6/2010 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 ₹4971 lakh as on 1.4.2009 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 capital expenditure for 2009-14 tariff period, and 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 true up Annual Fixed Charge based on debt:equity ratio of 50:50 as considered by the Commission in its order dated 11.3.2011 in Petition No. 111/2009 with IA No. 6/2010. The transmission assets covered in the instant petition were commissioned 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 trueing up of the approved tariff for the tariff period 2009-14 as given under:-

(₹ in lakh)

| Funding | Admitted as on 31.3.2009 Amount | (%) |
|--------------|------------------------------------|---------------|
| Debt | 2485.50 | 50.00 |
| Equity | 2485.50 | 50.00 |
| Total | 4971.00 | 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 trueing up of tariff.

Return on Equity (“ROE”)

13. Clause (3), (4) and (5) of the 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 trued 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 11.3.2011. However, for truing up purpose, the computation of ROE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in 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(%) | 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, ROE as trued up is worked out by considering actual MAT rate for grossing up of ROE as shown in the table below:-



| Particulars | (₹ in lakh) | | | | |
|-------------------------------------|-------------|---------|---------|---------|---------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Approved vide order dated 11.3.2011 | 434.49 | 434.49 | 434.49 | 434.49 | 434.49 |
| As claimed by petitioner | 464.14 | 481.14 | 481.62 | 481.62 | 487.41 |
| Allowed after true up | 464.14 | 481.14 | 481.62 | 481.62 | 487.41 |

The variation in return on equity allowed in the instant order with reference to the ROE allowed vide order dated 11.3.2011 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. Further, 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. Regulation 17 of the 2009 Tariff Regulations provides the methodology to work out the depreciation. The Commission, in its order dated 11.3.2011, has



worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations.

19. As per Regulation 17 (4) of the 2009 Tariff Regulations, useful life for transmission line, sub-station and PLCC is 35 years, 25 years, and 15 years, respectively. In the present case, weighted average life of the transmission system works out to 34 years.

20. 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 and additional capitalisation as under:-

| (₹ in lakh) | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Approved vide order dated 11.3.2011 | 96.87 | 96.87 | 96.87 | 96.87 | 96.87 |
| As claimed by petitioner | 96.87 | 96.87 | 96.87 | 96.87 | 96.86 |
| Allowed after true up | 96.87 | 96.87 | 96.87 | 96.87 | 96.87 |

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

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

| Particulars | | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|-------------------------|--|---------|---------|---------|---------|---------|
| Actual line length (km) | 220kV D/C Kakrapar - Vav – I & II | 43 | 43 | 43 | 43 | 43 |
| | 220kV D/C Kakrapar - Vapi – I & II | 117 | 117 | 117 | 117 | 117 |
| | 220kV D/C Kakrapar – Haldarwa (Bharuch) – I & II | 74 | 74 | 74 | 74 | 74 |



| Particulars | | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---------------------------------|---|---------------|---------------|---------------|---------------|---------------|
| Actual (No. of Sub-stations) | 220 kV Sub-stations | 6 | 6 | 6 | 6 | 6 |
| Norms as per Regulation | Double Circuit (Single Conductor) (₹ lakh/km) | 0.269 | 0.284 | 0.301 | 0.318 | 0.336 |
| | 220 kV Sub-stations (₹ lakh/bay) | 52.40 | 55.40 | 58.57 | 61.92 | 65.46 |
| O&M Expenses | 220 kV, 2 conductors, AC Lines (₹ lakh) | 62.95 | 66.46 | 70.43 | 74.41 | 78.62 |
| | 220 kV Sub-stations (₹ lakh) | 220.08 | 232.68 | 246.00 | 260.04 | 274.92 |
| Total (₹ in lakh) | | 283.03 | 299.14 | 316.43 | 334.45 | 353.54 |

22. The O&M Expenses claimed by the petitioner for the tariff period 2009-14 are same as that approved in the tariff order dated 11.3.2011 in Petition No. 111/2009 with IA No. 6/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and true 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 11.3.2011 | 283.03 | 299.14 | 316.43 | 334.45 | 353.54 |
| As claimed by petitioner | 283.03 | 299.14 | 316.43 | 334.45 | 353.54 |
| Allowed after true up | 283.03 | 299.14 | 316.43 | 334.45 | 353.54 |

Interest on working capital (“IWC”)

23. 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 on working capital.



24. 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.

25. The Commission in its order dated 11.3.2011 in Petition No. 111/2009 with IA No. 6/2010 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, 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.

26. The IWC trued up is as under:-

| Particulars | (₹ in lakh) | | | | |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Maintenance Spares | 42.45 | 44.87 | 47.47 | 50.17 | 53.03 |
| O & M expenses | 23.59 | 24.93 | 26.37 | 27.87 | 29.46 |
| Receivables | 144.98 | 150.69 | 153.80 | 156.95 | 161.28 |
| Total | 211.02 | 220.49 | 227.63 | 234.99 | 243.77 |
| Rate of Interest (%) | 12.25 | 12.25 | 12.25 | 12.25 | 12.25 |
| Interest | 25.85 | 27.01 | 27.89 | 28.79 | 29.86 |

27. The IWC claimed by the petitioner, allowed and trued up are as shown in the table below:-



| (₹ in lakh) | | | | | |
|-------------------------------------|---------|---------|---------|---------|---------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Approved vide order dated 11.3.2011 | 25.23 | 26.04 | 26.90 | 27.80 | 28.76 |
| As claimed by petitioner | 25.85 | 27.01 | 27.88 | 28.79 | 29.86 |
| Allowed after true up | 25.85 | 27.01 | 27.89 | 28.79 | 29.86 |

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

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

28. 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 | | | | | |
| Opening Gross block | 4971.00 | 4971.00 | 4971.00 | 4971.00 | 4971.00 |
| Addition during 2009-14 due to Additional Capitalization | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 4971.00 | 4971.00 | 4971.00 | 4971.00 | 4971.00 |
| Average Gross block | 4971.00 | 4971.00 | 4971.00 | 4971.00 | 4971.00 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 1.949 | 1.949 | 1.949 | 1.949 | 1.949 |
| Depreciable Value | 4473.90 | 4473.90 | 4473.90 | 4473.90 | 4473.90 |
| Elapsed Life (Beginning of the year) | 17 | 18 | 19 | 20 | 21 |
| Weighted Balance Useful life of the assets (Year) | 17 | 16 | 15 | 14 | 13 |
| Remaining Depreciable Value | 1647 | 1550 | 1453 | 1356 | 1259 |
| Depreciation | 96.87 | 96.87 | 96.87 | 96.87 | 96.87 |
| Cumulative Depreciation | 2924.03 | 3020.89 | 3117.76 | 3214.63 | 3311.50 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | - | - | - | - | - |
| Cumulative Repayment up to COD/Previous Year | - | - | - | - | - |
| Net Loan-Opening | - | - | - | - | - |
| Addition due to Additional Capitalization | - | - | - | - | - |



| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---------------|---------------|---------------|---------------|---------------|
| Repayment during the year | - | - | - | - | - |
| Net Loan-Closing | - | - | - | - | - |
| Average Loan | - | - | - | - | - |
| Weighted Average Rate of Interest on Loan (%) | - | - | - | - | - |
| Interest | - | - | - | - | - |
| Return on Equity | | | | | |
| Opening Equity | 2485.50 | 2485.50 | 2485.50 | 2485.50 | 2485.50 |
| Additional Capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 2485.50 | 2485.50 | 2485.50 | 2485.50 | 2485.50 |
| Average Equity | 2485.50 | 2485.50 | 2485.50 | 2485.50 | 2485.50 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT rate for respective 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) | 464.14 | 481.14 | 481.62 | 481.62 | 487.41 |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 42.45 | 44.87 | 47.47 | 50.17 | 53.03 |
| O & M expenses | 23.59 | 24.93 | 26.37 | 27.87 | 29.46 |
| Receivables | 144.98 | 150.69 | 153.80 | 156.95 | 161.28 |
| Total | 211.02 | 220.49 | 227.63 | 234.99 | 243.77 |
| Interest | 25.85 | 27.01 | 27.89 | 28.79 | 29.86 |
| Annual Transmission Charges | | | | | |
| Depreciation | 96.87 | 96.87 | 96.87 | 96.87 | 96.87 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 464.14 | 481.14 | 481.62 | 481.62 | 487.41 |
| Interest on Working Capital | 25.85 | 27.01 | 27.89 | 28.79 | 29.86 |
| O & M Expenses | 283.03 | 299.14 | 316.43 | 334.45 | 353.54 |
| Total | 869.89 | 904.16 | 922.80 | 941.72 | 967.68 |

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

| (₹ in lakh) | | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 97.57 | 98.33 | 98.33 | 99.58 | 100.98 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 487.96 | 488.50 | 488.50 | 489.24 | 489.97 |
| Interest on Working Capital | 31.38 | 32.01 | 32.63 | 33.30 | 34.02 |
| O & M Expenses | 324.16 | 334.90 | 346.18 | 357.46 | 369.56 |
| Total | 941.07 | 953.74 | 965.64 | 979.58 | 994.53 |



30. 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 | 48.62 | 50.24 | 51.93 | 53.62 | 55.43 |
| O & M Expenses | 27.01 | 27.91 | 28.85 | 29.79 | 30.80 |
| Receivables | 156.85 | 158.96 | 160.94 | 163.26 | 165.76 |
| Total | 232.48 | 237.11 | 241.72 | 246.67 | 251.99 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 31.38 | 32.01 | 32.63 | 33.30 | 34.02 |

Capital Cost

31. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provide 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.”

32. The petitioner has claimed capital cost of ₹4971 lakh as on 31.3.2014. Further, the petitioner has also projected net additional capital expenditure of ₹43.60 lakh during the tariff period 2014-19.

33. The trued up capital cost of ₹4971 lakh as on 31.3.2014 has been considered as opening capital cost as on 1.4.2014 to work out the tariff for tariff period 2014-19.



Additional Capital Expenditure

34. The petitioner has claimed additional capitalization of ₹19.91 lakh and de-capitalisation of ₹1.25 lakh on account of replacement of Current Transformers (CTs) at 220 kV Haldarwa Substation (GETCO) during 2014-15 and additional capitalization of ₹30.00 lakh and de-capitalisation of ₹5.06 lakh on account of replacement of Circuit Breakers (CBs) at 220 kV Vav Substation (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.

35. 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 obsolescence 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”

36. The petitioner submitted that the fault level of existing 220 kV CTs installed at Haldarwa sub-station of GETCO under Kawas and Kakrapar thermal Station covered under this petition has increased beyond 40 kA, therefore, M/s GETCO requested the petitioner to replace them. Any failure of these CTs may



result in consequential damages of nearby equipment's. Since it is connected to generating stations, sudden failure will affect evacuation of power and may also affect the stability of the grid.

37. Further, the petitioner submitted that for ABB make CBs installed at Haldwara, Navsari and Vav substations of GETCO, the designs of CBs have undergone substantial changes over the period and manufacturers have discontinued the product models. The suppliers are unable to replenish parts required for quick restoration and repairs are unviable. In view of absence of proper support from suppliers due to obsolescence of design, the maintenance of these equipments is not possible anymore and the fault level of the sub-station has increased, which is higher than the short circuit rating of these breakers.

38. The petitioner has submitted a copy of correspondence sent by GETCO requesting replacement of CTs. We observe that 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 the copy of correspondence from GETCO towards replacement of CTs. The total capital cost including additional capital expenditure proposed during the 2014-19 tariff period is ₹5014.60 lakh, which is well within the approved cost of ₹5700.00 lakh. Hence, the Commission approves the additional capitalisation proposed by the petitioner. The summary of total capital cost including additional capitalisation considered by the Commission is given below:-



(₹ in lakh)

| Particulars | 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 (net of de-cap) | |
| | | Add Cap | De-Cap | Add Cap | Add Cap | Add Cap | De-Cap | Add Cap | | |
| Approved | 4,971.00 | 19.91 | -1.25 | 0.00 | 0.00 | 30.00 | -5.06 | 0.00 | 43.60 | 5,014.60 |

Debt: Equity Ratio

39. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(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.”

40. The admitted debt:equity ratio of 50:50 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 opening debt:equity considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(in ₹ lakh)

| Funding | Admitted as on 31.3.2014 Amount | (%) |
|--------------|------------------------------------|---------------|
| Debt | 2485.50 | 50.00 |
| Equity | 2485.50 | 50.00 |
| Total | 4971.00 | 100.00 |

41. The normative debt:equity ratio of 70:30 has been considered for additional capitalisation proposed during the tariff period 2014-19.



Interest on Loan (“IOL”)

42. 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”)

43. 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."

44. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate for 2013-14 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.

45. 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.

46. 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), 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, MAT rate applicable during 2013-14 has been considered for the purpose of allowing 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 is worked out as given below:-

| (₹ in lakh) | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 2485.50 | 2491.10 | 2491.10 | 2491.10 | 2498.58 |
| Addition due to additional capitalization | 5.60 | 0.00 | 0.00 | 7.48 | 0.00 |
| Closing Equity | 2491.10 | 2491.10 | 2491.10 | 2498.58 | 2498.58 |
| Average Equity | 2488.30 | 2491.10 | 2491.10 | 2494.84 | 2498.58 |
| 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) | 487.96 | 488.50 | 488.50 | 489.24 | 489.97 |

Depreciation

47. 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."



48. The petitioner has computed depreciation considering capital expenditure of ₹4971 lakh as on 31.3.2014 and projected net additional capitalization of ₹43.60 lakh for the tariff period 2014-19.

49. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

| (₹ in lakh) | | | | | |
|---|--------------|--------------|--------------|--------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross block | 4971.00 | 4989.66 | 4989.66 | 4989.66 | 5014.60 |
| Addition during the year due to projected additional capitalization | 18.66 | 0.00 | 0.00 | 24.94 | 0.00 |
| Closing Gross block | 4989.66 | 4989.66 | 4989.66 | 5014.60 | 5014.60 |
| Rate of Depreciation (%) | 1.959 | 1.971 | 1.971 | 1.991 | 2.014 |
| Depreciable Value | 4482.30 | 4490.69 | 4490.69 | 4501.92 | 4513.14 |
| Elapsed Life (Beginning of the year) | 22 | 23 | 24 | 25 | 26 |
| Weighted Balance Useful life of the assets | 12 | 11 | 10 | 9 | 8 |
| Remaining Depreciable Value | 1170.80 | 1081.63 | 983.30 | 896.19 | 807.84 |
| Depreciation | 97.57 | 98.33 | 98.33 | 99.58 | 100.98 |

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

50. 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 has been worked out as given hereunder:-



| Particulars | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------------|--|---------------|---------------|---------------|---------------|---------------|
| Actual line length (km) | 220kV D/C Kakrapar - Vav – I & II | 43 | 43 | 43 | 43 | 43 |
| | 220kV D/C Kakrapar - Vapi – I & II | 117 | 117 | 117 | 117 | 117 |
| | 220kV D/C Kakrapar - Haldarwa (Bharuch) – I & II | 74 | 74 | 74 | 74 | 74 |
| Actual (No. of Sub-stations) | 220 kV Sub-stations | 6 | 6 | 6 | 6 | 6 |
| Norms as per Regulation | Double Circuit (Single Conductor) (₹ lakh/km) | 0.303 | 0.313 | 0.324 | 0.334 | 0.346 |
| | 220 kV Sub-stations (₹ lakh/bay) | 42.21 | 43.61 | 45.06 | 46.55 | 48.10 |
| O&M Expenses | 220 kV, 2 conductors, AC Lines (₹ lakh) | 70.90 | 73.24 | 75.82 | 78.16 | 80.96 |
| | 220 kV Sub-stations (₹ lakh) | 253.26 | 261.66 | 270.36 | 279.30 | 288.60 |
| Total (₹ in lakh) | | 324.16 | 334.90 | 346.18 | 357.46 | 369.56 |

51. The petitioner has submitted that 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.

52. 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.

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

| Particulars | (₹ in lakh) | | | | |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O&M Expenses allowed | 324.16 | 334.90 | 346.18 | 357.46 | 369.56 |

Interest on Working Capital (“IWC”)

54. 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;”

55. The petitioner has submitted that it has computed IWC 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 for the purpose of computation of tariff is 13.50%.

56. 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 is shown in the table below:-



| (₹ in lakh) | | | | | |
|----------------------|--------------|--------------|--------------|--------------|--------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | 48.62 | 50.24 | 51.93 | 53.62 | 55.43 |
| O & M expenses | 27.01 | 27.91 | 28.85 | 29.79 | 30.80 |
| Receivables | 156.84 | 158.96 | 160.94 | 163.26 | 165.76 |
| Total | 232.48 | 237.10 | 241.71 | 246.67 | 251.99 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 31.39 | 32.01 | 32.63 | 33.30 | 34.02 |

Annual Transmission Charges

57. The Annual Transmission Charges allowed for the transmission asset is given hereunder:-

| (₹ in lakh) | | | | | |
|------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 97.57 | 98.33 | 98.33 | 99.58 | 100.98 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 487.96 | 488.50 | 488.50 | 489.24 | 489.97 |
| Interest on WC | 31.39 | 32.01 | 32.63 | 33.30 | 34.02 |
| O&M Expenses | 324.16 | 334.90 | 346.18 | 357.46 | 369.56 |
| Total | 941.07 | 953.75 | 965.64 | 979.57 | 994.53 |

58. The detailed computation of various components of annual fixed charges for the tariff period 2014-19 is summarized below:-

| (₹ in lakh) | | | | | |
|--|---------|---------|---------|---------|---------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Block | | | | | |
| Opening Gross block | 4971.00 | 4989.66 | 4989.66 | 4989.66 | 5014.60 |
| Addition during 2014-19 due to Projected Additional Capitalization | 18.66 | 0.00 | 0.00 | 24.94 | 0.00 |
| Closing Gross block | 4989.66 | 4989.66 | 4989.66 | 5014.60 | 5014.60 |
| Average Gross block | 4980.33 | 4989.66 | 4989.66 | 5002.13 | 5014.60 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 1.959 | 1.971 | 1.971 | 1.991 | 2.014 |



| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|---------|---------|
| Depreciable Value | 4482.30 | 4490.69 | 4490.69 | 4501.92 | 4513.14 |
| Elapsed Life (Beginning of the year) | 22 | 23 | 24 | 25 | 26 |
| Weighted Balance Useful life of the assets | 12 | 11 | 10 | 9 | 8 |
| Remaining Depreciable Value | 1170.80 | 1081.63 | 983.30 | 896.19 | 807.84 |
| Depreciation | 97.57 | 98.33 | 98.33 | 99.58 | 100.98 |
| Cumulative Depreciation | 3409.06 | 3507.39 | 3605.72 | 3705.30 | 3806.28 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | - | - | - | - | - |
| Cumulative Repayment up to COD/ Previous Year | - | - | - | - | - |
| Net Loan-Opening | - | - | - | - | - |
| Addition due to Additional Capitalization | - | - | - | - | - |
| Repayment during the year | - | - | - | - | - |
| Net Loan-Closing | - | - | - | - | - |
| Average Loan | - | - | - | - | - |
| Weighted Average Rate of Interest on Loan (%) | - | - | - | - | - |
| Interest | - | - | - | - | - |
| | | | | | |
| Return on Equity | | | | | |
| Opening Equity | 2485.50 | 2491.10 | 2491.10 | 2491.10 | 2498.58 |
| Additions | 5.60 | 0.00 | 0.00 | 7.48 | 0.00 |
| Closing Equity | 2491.10 | 2491.10 | 2491.10 | 2498.58 | 2498.58 |
| Average Equity | 2488.30 | 2491.10 | 2491.10 | 2494.84 | 2498.58 |
| 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 |
| Return on Equity (Pre Tax) (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre Tax) | 487.96 | 488.50 | 488.50 | 489.24 | 489.97 |
| | | | | | |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 48.62 | 50.24 | 51.93 | 53.62 | 55.43 |
| O & M expenses | 27.01 | 27.91 | 28.85 | 29.79 | 30.80 |
| Receivables | 156.84 | 158.96 | 160.94 | 163.26 | 165.76 |



| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Total | 232.48 | 237.10 | 241.71 | 246.67 | 251.99 |
| Interest Rate (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 31.39 | 32.01 | 32.63 | 33.30 | 34.02 |
| | | | | | |
| Annual Transmission Charges | | | | | |
| Depreciation | 97.57 | 98.33 | 98.33 | 99.58 | 100.98 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 487.96 | 488.50 | 488.50 | 489.24 | 489.97 |
| Interest on Working Capital | 31.39 | 32.01 | 32.63 | 33.30 | 34.02 |
| O & M Expenses | 324.16 | 334.90 | 346.18 | 357.46 | 369.56 |
| Total | 941.07 | 953.75 | 965.64 | 979.57 | 994.53 |

Filing Fee and Publication Expenses

59. 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

60. The petitioner has requested to allow the petitioner to bill and recover Licence 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

61. 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

62. 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 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 materializes, directly from the beneficiaries or long term transmission customers /DICs.

Sharing of Transmission Charges

63. 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.

64. This order disposes of Petition No. 424/TT/2014.

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

Sd/-
(A.S. Bakshi)
Member

