

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 532/TT/2014

Coram:

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

Date of Hearing : 14.03.2016

Date of Order : 18.03.2016

In the matter of:

Determination of transmission tariff for **Asset-I:** 1X16 MVA, 220/132 kV ICT at Nirjuli Substation, and **Asset-II:** 1X63 MVAR, 420 kV Bus Reactor at Balipara Substation under "Provision of Spare Transformers and Reactor in NER" for 2014-19 Tariff block period in North-Eastern Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and 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. Assam Electricity Grid Corporation Limited
(Formerly Assam State Electricity Board),
"Bijulee Bhawan", Paltanbazar, Guwahati- 781 001
2. Meghalaya Energy Corporation Ltd.
(Formerly Meghalaya State Electricity Board)
Short Round Road, "Lumjingshai",
Shillong-793 001
3. Government of Arunachal Pradesh,
Itanagar, Arunachal Pradesh
4. Power and Electricity Department
Govt. of Mizoram,



Aizawl, Mizoram

5. Manipur State Electricity Distribution Company Ltd.
(Formerly Electricity Department, Government of Manipur)
Keishampat, Imphal
6. Department of Power,
Government of Nagaland
Kohima, Nagaland
7. Tripura State Electricity Corporation Ltd.,
Vidhyut Bhawan, North Banamalipur,
Agartala, Tripura (W) – 799001

....**Respondents**

The following were present:-

For Petitioner: Shri S.S. Raju, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri Jasbir Singh, PGCIL
 Shri Aryaman Saxena, PGCIL
 Shri M.M. Mondal, PGCIL

For Respondent: None.

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for **Asset-I**: 1X16 MVA, 220/132 kV ICT at Nirjuli Sub-station, and **Asset-II**: 1X63 MVAR, 420 kV Bus Reactor at Balipara Sub-station under “Provision of Spare Transformers and Reactor in NER” for 2014-19 tariff period in North-Eastern Region (hereinafter referred as “transmission asset”) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD to 31.3.2019.



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

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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner company vide memorandum no. C/CP/NER-ID250 dated 22.3.2012 at an estimated cost of ₹1394 lakh, which included IDC of ₹63 lakh.

(b) The scope of the instant project is as under:-

(i) 1 x 100 MVA, 220/132 kV Inter connecting Transformer (3-Phase) at Dimapur Sub-station

(ii) 1 x 16 MVA, 132/33 kV Inter connecting Transformer (3-Phase) at Nirjuli Sub-station

(iii) 1 x 5 MVA, 132/33 kV Inter connecting Transformer (1-Phase) at Ziro Sub-station

(iv) 1 x 63 MVAR, 420 kV Bus Reactor at Balipara Sub-station

(c) The petitioner has claimed the transmission charges as under:-

| Particulars (Asset-I) | (₹ in lakh) | | | | |
|-----------------------------|-----------------------|--------------|--------------|--------------|--------------|
| | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 5.12 | 11.09 | 11.09 | 11.09 | 11.09 |
| Interest on Loan | 6.11 | 12.69 | 11.66 | 10.62 | 9.59 |
| Return on Equity | 5.70 | 12.36 | 12.36 | 12.36 | 12.36 |
| Interest on Working Capital | 0.39 | 0.83 | 0.81 | 0.78 | 0.76 |
| O&M Expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 17.32 | 36.97 | 35.92 | 34.85 | 33.80 |



| (₹ in lakh) | | | | | |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|
| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 21.69 | 23.61 | 23.61 | 23.61 | 23.61 |
| Interest on Loan | 26.57 | 26.00 | 23.81 | 21.61 | 19.41 |
| Return on Equity | 24.17 | 26.31 | 26.31 | 26.31 | 26.31 |
| Interest on Working Capital | 1.67 | 1.75 | 1.70 | 1.65 | 1.60 |
| O&M Expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 73.24 | 77.67 | 75.43 | 73.18 | 70.93 |

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

| (₹ in lakh) | | | | | |
|-----------------------|-----------------------|-------------|-------------|-------------|-------------|
| Particulars (Asset-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| O & M Expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Receivables | 3.48 | 6.16 | 5.99 | 5.81 | 5.63 |
| Total | 3.48 | 6.16 | 5.99 | 5.81 | 5.63 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 0.39 | 0.83 | 0.81 | 0.78 | 0.76 |

| (₹ in lakh) | | | | | |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| O & M Expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Receivables | 12.35 | 12.95 | 12.57 | 12.20 | 11.82 |
| Total | 12.35 | 12.95 | 12.57 | 12.20 | 11.82 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 1.67 | 1.75 | 1.70 | 1.65 | 1.60 |

4. The AFC for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 15.4.2015. The petitioner has submitted additional information vide affidavits dated 30.4.2015.



5. 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 14.3.2016. None of the respondents have filed their reply. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Date of Commercial Operation (COD)

6. The petitioner has claimed the date of the commercial operation as 30.5.2014 and 1.4.2014 for Asset-I and Asset-II respectively. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

"4. Date of Commercial Operation: The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

xxx
xxx"

7. The petitioner vide affidavit dated 30.4.2015 has submitted that the subject assets are spare transformers & reactors and are placed near the switchyard in HOT standby condition, such that the same can replace the faulty equipment within NER in the shortest possible time, thereby reducing outage



time and increase the operational availability of the Grid. Accordingly, the letter of COD has been issued after making the assets ready as HOT Standby. Further, submitted that RLDC and CEA certificate shall be applicable when the instant assets were replaced by the faulty equipment of the Grid. The petitioner has submitted the copy of COD of the instant assets.

Capital Cost

8. Regulation 9 (1) and (2) and 10 (1) of the 2014 Tariff Regulations specify as follows:-

“9. Capital Cost: (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.

(2) The Capital Cost of a new project shall include the following:

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (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;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

“10. Prudence Check of Capital Expenditure: The following principles shall be adopted for prudence check of capital cost of the existing or new projects:



(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

Time over-run

9. As per the investment approval, the commissioning schedule of the project is 21 months from the date of investment approval. The investment approval was accorded on 22.3.2012 and the schedule date of commercial operation of the instant was 21.12.2013 against which the Asset-I and Asset-II was commissioned on 30.5.2014 and 1.4.2014 respectively. Hence there is a time over-run of 161 days and 102 days in case of Asset-I and Asset-II respectively in commissioning of the assets.

10. As regards time over-run in case of Asset-I, the petitioner submitted that the transformer was delivered at site on 21.4.2013. During the preliminary oil sample test the moisture content in the transformer was violating the limit. There was moisture ingress during transportation from M/s Siemens works to Nirjuli Sub-station. The transformer was sent back to M/s Siemens works for repairing and the same was delivered on 3.5.2014 after thoroughly overhauling and rectification. We have considered the submissions of the petitioner with regard to the time over-run in case of Asset-I. As per the submissions of the petitioner, the moisture content in the transformer was higher than the permissible limit when it was delivered in the Nirjuli Sub-station and the transformer was sent back to the



manufacturer for repairs. The petitioner should have ensured that the manufacturer/transporter delivers the equipment at site at proper usable conditions. Further, on perusal of an e-mail, dated 28.5.2013 sent by Siemens to the petitioner, it is observed that during transportation from works to Nirjuli Sub-station there was theft of oil and water entered the transformer to maintain the oil level. This shows that the petitioner, manufacturer and the transporter have not taken the required precautionary measures while transporting the transformer which resulted in damage to the transformer and the consequent time over-run. We are of the considered view that the beneficiaries should not be burdened for the laxity on the part of the petitioner, manufacturer and the transformer. Accordingly, the time over-run of 161 days is not condoned.

11. As regards Asset-II, the petitioner has submitted that during execution of the project there were approximately 290 bandhs, blockades and obstructions in Assam by various organizations which were operational in these areas demanding construction and repair of roads and schools, to provide drinking water in villages, demanding jobs. The petitioner has further submitted that roads in lower Assam which connect to projects passes through Brahmaputra river and gets badly deteriorated during long monsoon period which makes it very difficult to transport man and materials through road. In various instances the truck owners association has gone on agitation along with stoppage of movement of commercial vehicles demanding improvement of the road conditions. We have considered the submissions of the petitioner. The justification submitted by the petitioner is generic in nature and the petitioner has not given proper justification



that how these incidents affected the commissioning of the instant asset. We are not convinced with the justification given by the petitioner. Hence, the delay of 102 days in case of Asset-II is not condoned.

IDC and IEDC

12. The petitioner has not claimed any IDC and IEDC for Asset-I and Asset-II. Hence there is no impact of time over-run on IDC and IEDC. We have considered the submissions of the petitioner.

Treatment of Initial spares:

13. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

- “(a) Coal-based/lignite-fired thermal generating stations - 4.0%
- (b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%
- (c) Hydro generating stations including pumped storage hydro generating station. - 4.0%

- (d) Transmission system
 - (i) Transmission line - 1.00%
 - (ii) Transmission Sub-station (Green Field) - 4.00%
 - (iii) Transmission Sub-station (Brown Field) - 6.00%
 - (iv) Series Compensation devices and HVDC Station - 4.00%
 - (v) Gas Insulated Sub-station (GIS) - 5.00%
 - (vi) Communication system - 3.5%”

14. The petitioner has claimed initial spares of 1.28% and 1.23% for Asset-I and Asset-II respectively which is within the ceiling limit specified for sub-station and hence it is allowed.



Cost over-run

15. The estimated completion cost claimed by the petitioner is with the approved apportioned cost, hence there is no cost over-run.

16. The petitioner has claimed capital cost of ₹21.03 lakh and ₹374.34 lakh as on COD in the petition for Asset-I and Asset-II respectively. We have considered the capital cost of ₹21.03 lakh and ₹374.34 lakh as on COD for determination of tariff for the 2014-19 tariff period.

Additional Capital Expenditure

17. The petitioner has proposed additional capitalization of ₹189.09 lakh and ₹72.91 lakh for Asset-I and Asset-II respectively for the year 2014-15 towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. It is observed that total estimated completion cost of ₹210.12 lakh including the additional capitalization of ₹189.09 lakh is within the approved apportioned cost of ₹239.18 lakh for Asset-I. Further, for Asset-II total estimated completion cost of ₹447.25 lakh including the additional capitalization of ₹72.91 lakh is within the approved apportioned cost of ₹514.37 lakh for Asset-II. Accordingly, additional capitalization of ₹189.09 lakh and ₹72.91 lakh is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations.



| Cost as per revised Investment Approval for Asset-I is ₹239.18lakh | | | | | | | |
|---|-------------------------------------|---------|---------|---------|---------|---------------------------------|--|
| Capital cost as on 30.5.2014 | Additional capitalisation projected | | | | | Total additional capitalisation | Total capital cost including additional capitalisation as on 31.3.2019 |
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | | |
| 21.03 | 189.09 | 0.00 | 0.00 | 0.00 | 0.00 | 189.09 | 210.12 |

| Cost as per revised Investment Approval for Asset-II is ₹514.37lakh | | | | | | | |
|--|-------------------------------------|---------|---------|---------|---------|---------------------------------|--|
| Capital cost as on 1.4.2014 | Additional capitalisation projected | | | | | Total additional capitalisation | Total capital cost including additional capitalisation as on 31.3.2019 |
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | | |
| 374.34 | 72.91 | 0.00 | 0.00 | 0.00 | 0.00 | 72.91 | 447.25 |

Debt:EquityRatio

18. Regulation 19 (1) of the 2014 Tariff Regulations specifies as under:-

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

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

19. The petitioner has considered debt:equity ratio as 70:30 as on COD. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2014-15. The details of the debt:equity as on the date of COD and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-



(₹ in lakh)

| Asset-I | As on 30.5.2014 | | Additional capitalization during 2014-19 | | As on 31.3.2019 | |
|--------------|-----------------|---------------|--|---------------|-----------------|---------------|
| | Amount | (%) | Amount | (%) | Amount | (%) |
| Debt | 14.72 | 70.00 | 132.36 | 70.00 | 147.08 | 70.00 |
| Equity | 6.31 | 30.00 | 56.73 | 30.00 | 63.04 | 30.00 |
| Total | 21.03 | 100.00 | 189.09 | 100.00 | 210.12 | 100.00 |

(₹ in lakh)

| Asset-II | As on 1.4.2014 | | Additional capitalization during 2014-19 | | As on 31.3.2019 | |
|--------------|----------------|---------------|--|---------------|-----------------|---------------|
| | Amount | (%) | Amount | (%) | Amount | (%) |
| Debt | 262.04 | 70.00 | 51.04 | 70.00 | 313.08 | 70.00 |
| Equity | 112.30 | 30.00 | 21.87 | 30.00 | 134.17 | 30.00 |
| Total | 374.34 | 100.00 | 72.91 | 100.00 | 447.25 | 100.00 |

Interest on Loan (“IOL”)

20. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations provides 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.”

21. The petitioner has considered interest rate of 9.3000% for both the assets even though there is no actual loan. In response to Commissions query regarding the reasons for considering the same, the petitioner has submitted that



no direct loan is allocated to the assets and assets were funded through 100% equity only. Further, submitted that for calculating the interest on loan on notional basis, the interest rate of the Bond-XLVI at the rate of 9.30% has been considered for both the assets.

22. We have considered the submission of the petitioner. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations based on the 9.30% rate of interest. However, the petitioner is directed to submit the rate of interest of last available rate or Company as a whole in accordance with the Regulation at the time of truing up. The IOL has been worked out as follows:-

| Particulars (Asset-I) | (₹ in lakh) | | | | |
|---|-----------------------|--------------|--------------|--------------|-------------|
| | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross loan opening | 14.72 | 147.08 | 147.08 | 147.08 | 147.08 |
| Cumulative Repayment upto previous year | 0.00 | 5.12 | 16.21 | 27.30 | 38.40 |
| Net Loan-Opening | 14.72 | 141.96 | 130.87 | 119.78 | 108.68 |
| Additions during the year | 132.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 5.12 | 11.09 | 11.09 | 11.09 | 11.09 |
| Net Loan-Closing | 141.96 | 130.87 | 119.78 | 108.68 | 97.59 |
| Average Loan | 78.34 | 136.42 | 125.32 | 114.23 | 103.13 |
| Rate of Interest (%) | 9.3000 | 9.3000 | 9.3000 | 9.3000 | 9.3000 |
| Interest | 6.11 | 12.69 | 11.65 | 10.62 | 9.59 |

| Particulars (Asset-II) | (₹ in lakh) | | | | |
|---|-------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross loan opening | 262.04 | 313.08 | 313.08 | 313.08 | 313.08 |
| Cumulative Repayment upto previous year | 0.00 | 21.69 | 45.30 | 68.92 | 92.53 |
| Net Loan-Opening | 262.04 | 291.39 | 267.78 | 244.16 | 220.55 |
| Additions during the year | 51.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 21.69 | 23.61 | 23.61 | 23.61 | 23.61 |



| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------|--------------|--------------|--------------|--------------|--------------|
| Net Loan-Closing | 291.39 | 267.78 | 244.16 | 220.55 | 196.93 |
| Average Loan | 276.72 | 279.58 | 255.97 | 232.35 | 208.74 |
| Rate of Interest (%) | 9.3000 | 9.3000 | 9.3000 | 9.3000 | 9.3000 |
| Interest | 25.73 | 26.00 | 23.81 | 21.61 | 19.41 |

Return on Equity("ROE")

23. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25(2) 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 and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

xxx"

"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."

24. The petitioner has claimed ROE at the rate of 20.961% after grossing up the ROE of 15.5% with MAT rate as per the above said 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.

25. 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.

26. 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. The ROE allowed for the instant transmission asset is given below:-



(₹ in lakh)

| Particulars (Asset-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|--|-----------------------|--------------|--------------|--------------|--------------|
| Opening Equity | 6.31 | 63.04 | 63.04 | 63.04 | 63.04 |
| Additional Capitalization | 56.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 63.04 | 63.04 | 63.04 | 63.04 | 63.04 |
| Average Equity | 34.68 | 63.04 | 63.04 | 63.04 | 63.04 |
| Return on Equity (Base Rate)(%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| Tax 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) | 5.70 | 12.36 | 12.36 | 12.36 | 12.36 |

| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|--|--------------|--------------|--------------|--------------|--------------|
| Opening Equity | 112.30 | 134.17 | 134.17 | 134.17 | 134.17 |
| Additional Capitalization | 21.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 134.17 | 134.17 | 134.17 | 134.17 | 134.17 |
| Average Equity | 123.24 | 134.17 | 134.17 | 134.17 | 134.17 |
| Return on Equity (Base Rate) (%) | 15.50 | 15.50 | 15.50 | 15.50 | 15.50 |
| Tax 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) | 24.17 | 26.31 | 26.31 | 26.31 | 26.31 |

Depreciation

27. 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.”

28. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“(67) ‘Useful life’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:

- (a) Coal/Lignite based thermal generating station 25 years
- (b) Gas/Liquid fuel based thermal generating station 25 years
- (c) AC and DC sub-station 25 years
- (d) Gas Insulated Substation (GIS) 25 years
- (d) Hydro generating station including pumped Storage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”

29. The petitioner has claimed depreciation considering capital expenditure of ₹21.03lakh as on 30.5.2014withadditional capitalization of ₹189.09 lakh for the 2014-15 for Asset-I. With respect to Asset-II the petitioner has claimed depreciation considering capital expenditure of ₹374.34 lakh as on 1.4.2014 with additional capitalization of ₹72.91 lakh for the 2014-15.

30. We have considered the submissions of the petitioner and have computed depreciation considering capital expenditure of ₹21.03 lakh as on 30.5.2014 with additional capitalization of ₹189.09 lakh for the 2014-15 for Asset-I. Further, for Asset-II we have computed depreciation considering capital expenditure of ₹374.34 lakh as on 1.4.2014 with additional capitalization of ₹72.91 lakh for the



2014-15. The weighted average useful life of the asset has been considered as 25 years in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

| (₹ in lakh) | | | | | |
|---|-----------------------|--------------|--------------|--------------|--------------|
| Particulars (Asset-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross block | 21.03 | 210.12 | 210.12 | 210.12 | 210.12 |
| Additional Capitalization | 189.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 210.12 | 210.12 | 210.12 | 210.12 | 210.12 |
| Average Gross block | 115.58 | 210.12 | 210.12 | 210.12 | 210.12 |
| Rate of Depreciation (%) | 5.280 | 5.280 | 5.280 | 5.280 | 5.280 |
| Depreciable Value | 104.02 | 189.11 | 189.11 | 189.11 | 189.11 |
| Elapsed Life of the assets at beginning of the year | 0 | 1 | 2 | 3 | 4 |
| Weighted Balance Useful life of the assets | 25 | 24 | 23 | 22 | 21 |
| Remaining Depreciable Value | 104.02 | 183.99 | 172.90 | 161.80 | 150.71 |
| Depreciation | 5.12 | 11.09 | 11.09 | 11.09 | 11.09 |

| (₹ in lakh) | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|
| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross block | 374.34 | 447.25 | 447.25 | 447.25 | 447.25 |
| Additional Capitalization | 72.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross block | 447.25 | 447.25 | 447.25 | 447.25 | 447.25 |
| Average Gross block | 410.80 | 447.25 | 447.25 | 447.25 | 447.25 |
| Rate of Depreciation (%) | 5.280 | 5.280 | 5.280 | 5.280 | 5.280 |
| Depreciable Value | 369.72 | 402.53 | 402.53 | 402.53 | 402.53 |
| Elapsed Life of the assets at beginning of the year | 0 | 1 | 2 | 3 | 4 |
| Weighted Balance Useful life of the assets | 25 | 24 | 23 | 22 | 21 |
| Remaining Depreciable Value | 369.72 | 380.84 | 357.22 | 333.61 | 309.99 |
| Depreciation | 21.69 | 23.61 | 23.61 | 23.61 | 23.61 |



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

31. The petitioner has not claimed any O&M expense for the instant asset. Accordingly, we have not approved any O&M expense for the instant asset as the instant assets are spare transformers and reactors.

Interest on Working Capital (“IWC”)

32. 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).

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

| (₹ in lakh) | | | | | |
|-----------------------|-----------------------|---------|---------|---------|---------|
| Particulars (Asset-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| O & M expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Receivables | 2.89 | 6.16 | 5.99 | 5.81 | 5.63 |
| Total | 2.89 | 6.16 | 5.99 | 5.81 | 5.63 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |



| Particulars (Asset-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-----------------------|-----------------------|-------------|-------------|-------------|-------------|
| Interest | 0.39 | 0.83 | 0.81 | 0.78 | 0.76 |

(₹ in lakh)

| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| Maintenance Spares | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| O & M expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Receivables | 12.21 | 12.95 | 12.57 | 12.20 | 11.82 |
| Total | 12.21 | 12.95 | 12.57 | 12.20 | 11.82 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest | 1.65 | 1.75 | 1.70 | 1.65 | 1.60 |

Annual Transmission Charges

34. 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-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|-----------------------|---------|---------|---------|---------|
| Gross Block | | | | | |
| Opening Gross Block | 21.03 | 210.12 | 210.12 | 210.12 | 210.12 |
| Additional Capitalization | 189.09 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 210.12 | 210.12 | 210.12 | 210.12 | 210.12 |
| Average Gross Block | 115.58 | 210.12 | 210.12 | 210.12 | 210.12 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 5.280 | 5.280 | 5.280 | 5.280 | 5.280 |
| Depreciable Value | 104.02 | 189.11 | 189.11 | 189.11 | 189.11 |
| Elapsed Life of the assets at beginning of the year | 0 | 1 | 2 | 3 | 4 |
| Weighted Balance Useful life of the assets | 25 | 24 | 23 | 22 | 21 |
| Remaining Depreciable Value | 104.02 | 183.99 | 172.90 | 161.80 | 150.71 |
| Depreciation | 5.12 | 11.09 | 11.09 | 11.09 | 11.09 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | 14.72 | 147.08 | 147.08 | 147.08 | 147.08 |



| Particulars (Asset-I) | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|-----------------------|--------------|--------------|--------------|--------------|
| Cumulative Repayment upto Previous Year | 0.00 | 5.12 | 16.21 | 27.30 | 38.40 |
| Net Loan-Opening | 14.72 | 141.96 | 130.87 | 119.78 | 108.68 |
| Additions | 132.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 5.12 | 11.09 | 11.09 | 11.09 | 11.09 |
| Net Loan-Closing | 141.96 | 130.87 | 119.78 | 108.68 | 97.59 |
| Average Loan | 78.34 | 136.42 | 125.32 | 114.23 | 103.13 |
| Weighted Average Rate of Interest on Loan (%) | 9.3000 | 9.3000 | 9.3000 | 9.3000 | 9.3000 |
| Interest | 6.11 | 12.69 | 11.65 | 10.62 | 9.59 |
| Return on Equity | | | | | |
| Opening Equity | 6.31 | 63.04 | 63.04 | 63.04 | 63.04 |
| Additions | 56.73 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 63.04 | 63.04 | 63.04 | 63.04 | 63.04 |
| Average Equity | 34.68 | 63.04 | 63.04 | 63.04 | 63.04 |
| 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 (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre Tax) | 5.70 | 12.36 | 12.36 | 12.36 | 12.36 |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| O & M expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Receivables | 2.89 | 6.16 | 5.99 | 5.81 | 5.63 |
| Total | 2.89 | 6.16 | 5.99 | 5.81 | 5.63 |
| Interest | 0.39 | 0.83 | 0.81 | 0.78 | 0.76 |
| Annual Transmission Charges | | | | | |
| Depreciation | 5.12 | 11.09 | 11.09 | 11.09 | 11.09 |
| Interest on Loan | 6.11 | 12.69 | 11.65 | 10.62 | 9.59 |
| Return on Equity | 5.70 | 12.36 | 12.36 | 12.36 | 12.36 |
| Interest on Working Capital | 0.39 | 0.83 | 0.81 | 0.78 | 0.76 |
| O & M Expenses | - | - | - | - | - |
| Total | 17.31 | 36.98 | 35.92 | 34.86 | 33.81 |

(₹ in lakh)

| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---------------------------|---------|---------|---------|---------|---------|
| Gross Block | | | | | |
| Opening Gross Block | 374.34 | 447.25 | 447.25 | 447.25 | 447.25 |
| Additional Capitalization | 72.91 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 447.25 | 447.25 | 447.25 | 447.25 | 447.25 |



| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|---------|---------|
| Average Gross Block | 410.80 | 447.25 | 447.25 | 447.25 | 447.25 |
| | | | | | |
| Depreciation | | | | | |
| Rate of Depreciation (%) | 5.280 | 5.280 | 5.280 | 5.280 | 5.280 |
| Depreciable Value | 369.72 | 402.53 | 402.53 | 402.53 | 402.53 |
| Elapsed Life of the assets at beginning of the year | 0 | 1 | 2 | 3 | 4 |
| Weighted Balance Useful life of the assets | 25 | 24 | 23 | 22 | 21 |
| Remaining Depreciable Value | 369.72 | 380.84 | 357.22 | 333.61 | 309.99 |
| Depreciation | 21.69 | 23.61 | 23.61 | 23.61 | 23.61 |
| | | | | | |
| Interest on Loan | | | | | |
| Gross Normative Loan | 262.04 | 313.08 | 313.08 | 313.08 | 313.08 |
| Cumulative Repayment upto Previous Year | 0.00 | 21.69 | 45.30 | 68.92 | 92.53 |
| Net Loan-Opening | 262.04 | 291.39 | 267.78 | 244.16 | 220.55 |
| Additions | 51.04 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 21.69 | 23.61 | 23.61 | 23.61 | 23.61 |
| Net Loan-Closing | 291.39 | 267.78 | 244.16 | 220.55 | 196.93 |
| Average Loan | 276.72 | 279.58 | 255.97 | 232.35 | 208.74 |
| Weighted Average Rate of Interest on Loan (%) | 9.3000 | 9.3000 | 9.3000 | 9.3000 | 9.3000 |
| Interest | 25.73 | 26.00 | 23.81 | 21.61 | 19.41 |
| | | | | | |
| Return on Equity | | | | | |
| Opening Equity | 112.30 | 134.17 | 134.17 | 134.17 | 134.17 |
| Additions | 21.87 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 134.17 | 134.17 | 134.17 | 134.17 | 134.17 |
| Average Equity | 123.24 | 134.17 | 134.17 | 134.17 | 134.17 |
| 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 (%) | 19.610 | 19.610 | 19.610 | 19.610 | 19.610 |
| Return on Equity (Pre Tax) | 24.17 | 26.31 | 26.31 | 26.31 | 26.31 |
| | | | | | |
| Interest on Working Capital | | | | | |
| Maintenance Spares | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| O & M expenses | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Receivables | 12.21 | 12.95 | 12.57 | 12.20 | 11.82 |
| Total | 12.21 | 12.95 | 12.57 | 12.20 | 11.82 |
| Interest | 1.65 | 1.75 | 1.70 | 1.65 | 1.60 |
| | | | | | |



| Particulars (Asset-II) | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Annual Transmission Charges | | | | | |
| Depreciation | 21.69 | 23.61 | 23.61 | 23.61 | 23.61 |
| Interest on Loan | 25.73 | 26.00 | 23.81 | 21.61 | 19.41 |
| Return on Equity | 24.17 | 26.31 | 26.31 | 26.31 | 26.31 |
| Interest on Working Capital | 1.65 | 1.75 | 1.70 | 1.65 | 1.60 |
| O & M Expenses | - | - | - | - | - |
| Total | 73.24 | 77.67 | 75.43 | 73.18 | 70.93 |

Filing Fee and Publication Expenses

35. 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

36. 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

37. 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 of Service Tax is premature.

Sharing of Transmission Charges

38. 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.

39. This order disposes of Petition No. 532/TT/2014.

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

Sd/-
(A.S. Bakshi)
Member

