

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 142/TT/2015**

**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 1 no 125 MVAR Bus Reactor and associated bays at 400 kV Rourkela Sub-station under Transmission System for “Eastern Region Strengthening Scheme-VIII” in 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. Bihar State Power (Holding) Company Ltd  
Vidyut Bhawan, Bailey Road  
Patna- 800001
2. West Bengal State Electricity Distribution Company Limited  
Bidyut Bhawan, Bidhan Nagar,  
Salt Lake City, Kolkata-700091
3. Grid Corporation of Orissa Ltd.  
Shahid Nagar,  
Bhubaneswar- 751007
4. Jharkhand State Electricity Board  
Doranda, Ranchi-834002



5. Damodar Valley Corporation  
DVC Tower, Maniktala  
Civic Centre, VIP Road,  
Kolkata-700054
6. Power Department  
Govt of Sikkim,  
Gangtok-737101

....**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 1 no 125 MVAR Bus Reactor and associated bays at 400 kV Rourkela Sub-station under Transmission System for "Eastern Region Strengthening Scheme-VIII" in Eastern Region under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") for the period from 2.2.2015 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 Eastern and 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/ERSS VIII dated 28.8.2013 at an estimated cost of ₹7348 lakh, which included IDC of ₹361 lakh. Further, RCE for the project was accorded by Board of Directors of the petitioner company vide memorandum C/CP/RCE-ERSS VIII dated 19.2.2016 at an estimated cost of ₹9568 lakh including IDC of ₹111 lakh. The revised approved apportioned cost for the instant asset is ₹1050.65 lakh.

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

**Installation of Bus Reactor**

- i) 2 x 125 MVAR bus reactor at Muzaffarpur (one 125 MVAR reactor would be installed by replacing the existing 63 MVAR bus reactor at Muzaffarpur, which shall be used as spare).
- ii) 1 x 125 MVAR bus reactor at Rourkela.
- iii) 1 x 125 MVAR bus reactor at Indravati
- iv) Replacement of existing 1 x 63 MVAR bus reactor with 1 x 125 MVAR bus reactor at Jeypore (63 MVAR reactor thus released shall be used as spare reactor)

**Shifting of Line Reactor**

- i) Shifting of 2 x 50 MVAR line reactor from Patna end of 400 kV Kahalgaon/Barh  
– Patna D/C line to Balia end of 400kV Patna-Balia D/c line.

**Augmentation of Transformation Capacity**

Addition of 1 x 500 MVA, 400/220 kV ICT with associated bays at Subhashgram along with 2 nos. of 220 kV equipped line bays.



(c) The date of the commercial operation of the instant transmission asset was 2.2.2015. The petitioner has submitted RLDC certificate in support of the claim of commercial operation in accordance with Regulation

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

(₹ in lakh)

| Particulars                 | 2014-15<br>(pro-rata) | 2015-16       | 2016-17       | 2017-18       | 2018-19       |
|-----------------------------|-----------------------|---------------|---------------|---------------|---------------|
| Depreciation                | 4.32                  | 40.93         | 54.29         | 54.29         | 54.29         |
| Interest on Loan            | 4.80                  | 43.61         | 54.52         | 49.95         | 45.37         |
| Return on Equity            | 4.82                  | 45.61         | 60.49         | 60.49         | 60.49         |
| Interest on Working Capital | 0.87                  | 6.44          | 7.45          | 7.47          | 7.48          |
| O&M Expenses                | 9.87                  | 62.30         | 64.37         | 66.51         | 68.71         |
| <b>Total</b>                | <b>24.68</b>          | <b>198.89</b> | <b>241.12</b> | <b>238.71</b> | <b>236.34</b> |

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

(₹ in lakh)

| Particulars          | 2014-15<br>(pro-rata) | 2015-16     | 2016-17     | 2017-18     | 2018-19     |
|----------------------|-----------------------|-------------|-------------|-------------|-------------|
| Maintenance Spares   | 9.05                  | 9.35        | 9.66        | 9.98        | 10.31       |
| O & M Expenses       | 5.03                  | 5.19        | 5.36        | 5.54        | 5.73        |
| Receivables          | 25.13                 | 33.15       | 40.19       | 39.79       | 39.39       |
| Total                | 39.21                 | 47.69       | 55.21       | 55.31       | 55.43       |
| Rate of Interest (%) | 13.50                 | 13.50       | 13.50       | 13.50       | 13.50       |
| <b>Interest</b>      | <b>0.87</b>           | <b>6.44</b> | <b>7.45</b> | <b>7.47</b> | <b>7.48</b> |

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 2.7.2015. The petitioner has submitted additional information vide affidavits dated 16.10.2015 and 11.3.2016. The petitioner has submitted the revised tariff forms vide affidavit dated 16.10.2015 along with the Auditor's Certificate dated



28.9.2015 and the same has been considered for the purpose of computation of tariff.

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 of the instant transmission asset as 2.2.2015. 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 has submitted RLDC certificate issued by ERLDC, POSOCO vide letter dated 1.1.2016 in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation. Accordingly, the commercial operation date of the transmission asset has been considered as 2.2.2015 and the tariff is worked out from 2.2.2015 to 31.3.2019.

### **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 20 months from the date of investment approval. The investment approval was accorded on 27.08.2013 and hence the schedule date of commercial operation was 27.4.2015. The date of the commercial operation of the instant transmission asset was 2.2.2015 and hence there is no time over-run.

### **Cost over-run**

10. The total estimated completion cost as on 31.3.2019 submitted by the petitioner along with the petition is ₹1030.88 lakh which is exceeding the apportioned approved cost of ₹972.51 lakh. The petitioner has submitted that the cost variation is mainly due to variation in award cost received in competitive bidding. In this regard the petitioner was directed to submit the RCE. The petitioner has submitted RCE vide affidavit dated 11.3.2016. We have considered the revised apportioned approved cost as per RCE for the computation of tariff.



11. The petitioner initially claimed capital cost of ₹732.22 lakh as on COD in the petition. Later, vide affidavit dated 16.10.2015 has submitted the revised tariff forms. In the revised tariff forms, the petitioner has claimed capital cost of ₹477.92 lakh as on 2.2.2015 and additional capitalization of ₹44.26 lakh and ₹505.98 lakh for the years 2014-15 and 2015-16. The petitioner has submitted the statement showing the IDC discharged upto COD wherein it has stated that out of total IDC of ₹3.65 lakh, ₹2.09 lakh has been discharged upto COD and balance ₹0.01 lakh and ₹1.55 lakh has been discharged during 2014-15 and 2015-16 respectively. We have considered the capital cost of ₹476.36 lakh as on 31.3.2014 after adjusting the total accrued IDC of ₹1.56 lakh for determination of tariff for the 2014-19 tariff period. The petitioner has not claimed any initial spares for the transmission asset.

### **Additional Capital Expenditure**

12. The petitioner has proposed additional capitalization of ₹44.26 lakh and ₹505.98 lakh for the years 2014-15 and 2015-16 respectively towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. The accrual IDC of ₹0.01 lakh and ₹1.55 lakh has been considered as additional capitalization for 2014-15 and 2015-16. It is observed that total estimated completion cost of ₹1028.16 lakh including the additional capitalization of ₹44.27 lakh and ₹507.53 lakh is within the approved apportioned cost of ₹1050.65 lakh. Accordingly, additional capitalization of ₹44.27 lakh and ₹507.53 lakh is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations.





| Cost as per revised Investment Approval is ₹1050.65 lakh |                                     |         |         |         |         |                                 |  |
|--|-------------------------------------|---------|---------|---------|---------|---------------------------------|--|
| Capital cost as on 2.2.2015 (COD)                        | 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 |                                 |  |
| 476.36   | 44.27                               | 507.53  | 0.00    | 0.00    | 0.00    | 551.80                          | 1028.16  |

### **Debt: Equity Ratio**

13. 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:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff;
- the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment;
- 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.”

14. 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 and 2015-16. The details of the debt: equity as on the date of COD, i.e 2.2.2015 and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-



(₹ in lakh)

| Asset        | As on 2.2.2015 |               | Additional capitalization during 2014-19 |               | As on 31.3.2019 |               |
|--------------|----------------|---------------|--|---------------|-----------------|---------------|
|              | Amount         | (%)           | Amount                                   | (%)           | Amount          | (%)           |
| Debt         | 333.45         | 70.00         | 386.26                                   | 70.00         | 719.71          | 70.00         |
| Equity       | 142.91         | 30.00         | 165.54                                   | 30.00         | 308.45          | 30.00         |
| <b>Total</b> | <b>476.36</b>  | <b>100.00</b> | <b>551.80</b>                            | <b>100.00</b> | <b>1028.16</b>  | <b>100.00</b> |

### **Interest on Loan ("IOL")**

15. 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.”

16. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The petitioner has also prayed that they will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. The IOL has been worked out in accordance with



Regulation 26 of the 2014 Tariff Regulations. The petitioner's prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out as follows:-

| (₹ in lakh)                             |                       |              |              |              |              |
|---|-----------------------|--------------|--------------|--------------|--------------|
| Particulars                             | 2014-15<br>(pro-rata) | 2015-16      | 2016-17      | 2017-18      | 2018-19      |
| Gross loan opening                      | 333.45                | 364.44       | 719.71       | 719.71       | 719.71       |
| Cumulative Repayment upto previous year | 0.00                  | 4.18         | 45.07        | 99.36        | 153.64       |
| Net Loan-Opening                        | 333.45                | 360.26       | 674.64       | 620.35       | 566.07       |
| Additions during the year               | 30.99                 | 355.27       | 0.00         | 0.00         | 0.00         |
| Repayment during the year               | 4.18                  | 40.89        | 54.29        | 54.29        | 54.29        |
| Net Loan-Closing                        | 360.26                | 674.64       | 620.35       | 566.07       | 511.78       |
| Average Loan                            | 346.86                | 517.45       | 647.50       | 593.21       | 538.92       |
| Rate of Interest (%)                    | 8.4336                | 8.4236       | 8.4236       | 8.4236       | 8.4236       |
| <b>Interest</b>                         | <b>4.65</b>           | <b>43.59</b> | <b>54.54</b> | <b>49.97</b> | <b>45.40</b> |

### **Return on Equity ("ROE")**

17. 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



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.”

18. 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.

19. 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.



20. 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                            | 2014-15<br>(pro-rata) | 2015-16      | 2016-17      | 2017-18      | 2018-19      |
| Opening Equity                         | 142.91                | 156.19       | 308.45       | 308.45       | 308.45       |
| Additional Capitalization              | 13.28                 | 152.26       | 0.00         | 0.00         | 0.00         |
| Closing Equity                         | 156.19                | 308.45       | 308.45       | 308.45       | 308.45       |
| Average Equity                         | 149.55                | 232.32       | 308.45       | 308.45       | 308.45       |
| 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       |
| <b>Return on Equity (Pre Tax)</b>      | <b>4.66</b>           | <b>45.56</b> | <b>60.49</b> | <b>60.49</b> | <b>60.49</b> |

### **Depreciation**

21. 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.”

22. 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”

23. The petitioner has claimed depreciation considering capital expenditure of ₹477.92 lakh as on 2.2.2015 with additional capitalization of ₹44.26 lakh and ₹505.98 lakh for the 2014-19 tariff period.



24. We have computed depreciation considering capital expenditure of ₹476.36 lakh as on 2.2.2015 and additional capitalization of ₹44.27 lakh and ₹507.53 lakh for 2014-15 and 2015-16 respectively. 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  | 2014-15<br>(pro-rata) | 2015-16      | 2016-17      | 2017-18      | 2018-19      |
| Opening Gross block                                    | 476.36                | 520.63       | 1028.16      | 1028.16      | 1028.16      |
| Additional Capitalization                              | 44.27                 | 507.53       | 0.00         | 0.00         | 0.00         |
| Closing Gross block                                    | 520.63                | 1028.16      | 1028.16      | 1028.16      | 1028.16      |
| Average Gross block                                    | 498.50                | 774.40       | 1028.16      | 1028.16      | 1028.16      |
| Rate of Depreciation (%)                               | 5.280                 | 5.280        | 5.280        | 5.280        | 5.280        |
| Depreciable Value                                      | 448.65                | 696.96       | 925.34       | 925.34       | 925.34       |
| Elapsed Life of the assets<br>at beginning of the year | 0                     | 1            | 2            | 3            | 4            |
| Weighted Balance Useful<br>life of the assets          | 25                    | 24           | 23           | 22           | 21           |
| Remaining Depreciable<br>Value                         | 448.65                | 692.77       | 880.27       | 825.99       | 771.70       |
| <b>Depreciation</b>                                    | <b>4.18</b>           | <b>40.89</b> | <b>54.29</b> | <b>54.29</b> | <b>54.29</b> |

#### **Operation & Maintenance Expenses ("O&M Expenses")**

25. The instant petition covers one 400 kV bay. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses for a 400 kV bay:-

| Particulars              | 2014-15<br>(pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|--------------------------|-----------------------|---------|---------|---------|---------|
| <b>Norm (₹ lakh/bay)</b> |                       |         |         |         |         |
| 400 kV                   | 60.30                 | 62.30   | 64.37   | 66.51   | 68.71   |



26. The petitioner has claimed O&M Expenses as specified in sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. The details of O&M Expenses allowed are given hereunder:-

| Asset          | Year                  |              |              |              |              |
|----------------|-----------------------|--------------|--------------|--------------|--------------|
|                | 2014-15<br>(pro-rata) | 2015-16      | 2016-17      | 2017-18      | 2018-19      |
| One 400 kV bay | <b>9.58</b>           | <b>62.30</b> | <b>64.37</b> | <b>66.51</b> | <b>68.71</b> |

27. 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 is due during the 2014-19 tariff period 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.

28. 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, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.





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

29. 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).

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

| <b>(₹ in lakh)</b>   |                       |             |             |             |             |
|----------------------|-----------------------|-------------|-------------|-------------|-------------|
| Particulars          | 2014-15<br>(pro-rata) | 2015-16     | 2016-17     | 2017-18     | 2018-19     |
| Maintenance Spares   | 1.44                  | 9.35        | 9.66        | 9.98        | 10.31       |
| O & M expenses       | 0.80                  | 5.19        | 5.36        | 5.54        | 5.73        |
| Receivables          | 3.99                  | 33.13       | 40.19       | 39.79       | 39.39       |
| Total                | 6.22                  | 47.66       | 55.21       | 55.31       | 55.43       |
| Rate of Interest (%) | 13.50                 | 13.50       | 13.50       | 13.50       | 13.50       |
| <b>Interest</b>      | <b>0.84</b>           | <b>6.43</b> | <b>7.45</b> | <b>7.47</b> | <b>7.48</b> |



## **Annual Transmission Charges**

31. 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<br>(pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| <b>Gross Block</b>                                  |                       |         |         |         |         |
| Opening Gross Block                                 | 476.36                | 520.63  | 1028.16 | 1028.16 | 1028.16 |
| Additional Capitalization                           | 44.27                 | 507.53  | 0.00    | 0.00    | 0.00    |
| Closing Gross Block                                 | 520.63                | 1028.16 | 1028.16 | 1028.16 | 1028.16 |
| Average Gross Block                                 | 498.50                | 774.40  | 1028.16 | 1028.16 | 1028.16 |
|   |                       |         |         |         |         |
| <b>Depreciation</b>                                 |                       |         |         |         |         |
| Rate of Depreciation (%)                            | 5.280                 | 5.280   | 5.280   | 5.280   | 5.280   |
| Depreciable Value                                   | 448.65                | 696.96  | 925.34  | 925.34  | 925.34  |
| 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                         | 448.65                | 692.77  | 880.27  | 825.99  | 771.70  |
| Depreciation  | 4.18                  | 40.89   | 54.29   | 54.29   | 54.29   |
|   |                       |         |         |         |         |
| <b>Interest on Loan</b>                             |                       |         |         |         |         |
| Gross Normative Loan                                | 333.45                | 364.44  | 719.71  | 719.71  | 719.71  |
| Cumulative Repayment upto Previous Year             | 0.00                  | 4.18    | 45.07   | 99.36   | 153.64  |
| Net Loan-Opening                                    | 333.45                | 360.26  | 674.64  | 620.35  | 566.07  |
| Additions   | 30.99                 | 355.27  | 0.00    | 0.00    | 0.00    |
| Repayment during the year                           | 4.18                  | 40.89   | 54.29   | 54.29   | 54.29   |
| Net Loan-Closing                                    | 360.26                | 674.64  | 620.35  | 566.07  | 511.78  |
| Average Loan  | 346.86                | 517.45  | 647.50  | 593.21  | 538.92  |
| Weighted Average Rate of Interest on Loan (%)       | 8.4336                | 8.4236  | 8.4236  | 8.4236  | 8.4236  |
| Interest  | 4.65                  | 43.59   | 54.54   | 49.97   | 45.40   |
|   |                       |         |         |         |         |
| <b>Return on Equity</b>                             |                       |         |         |         |         |
| Opening Equity                                      | 142.91                | 156.19  | 308.45  | 308.45  | 308.45  |
| Additions   | 13.28                 | 152.26  | 0.00    | 0.00    | 0.00    |
| Closing Equity                                      | 156.19                | 308.45  | 308.45  | 308.45  | 308.45  |



| Particulars                        | 2014-15<br>(pro-rata) | 2015-16       | 2016-17       | 2017-18       | 2018-19       |
|------------------------------------|-----------------------|---------------|---------------|---------------|---------------|
| Average Equity                     | 149.55                | 232.32        | 308.45        | 308.45        | 308.45        |
| 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)         | 4.66                  | 45.56         | 60.49         | 60.49         | 60.49         |
|                                    |                       |               |               |               |               |
| <b>Interest on Working Capital</b> |                       |               |               |               |               |
| Maintenance Spares                 | 1.44                  | 9.35          | 9.66          | 9.98          | 10.31         |
| O & M expenses                     | 0.80                  | 5.19          | 5.36          | 5.54          | 5.73          |
| Receivables                        | 3.99                  | 33.13         | 40.19         | 39.79         | 39.39         |
| Total                              | 6.22                  | 47.66         | 55.21         | 55.31         | 55.43         |
| Interest                           | 0.84                  | 6.43          | 7.45          | 7.47          | 7.48          |
|                                    |                       |               |               |               |               |
| <b>Annual Transmission Charges</b> |                       |               |               |               |               |
| Depreciation                       | 4.18                  | 40.89         | 54.29         | 54.29         | 54.29         |
| Interest on Loan                   | 4.65                  | 43.59         | 54.54         | 49.97         | 45.40         |
| Return on Equity                   | 4.66                  | 45.56         | 60.49         | 60.49         | 60.49         |
| Interest on Working Capital        | 0.84                  | 6.43          | 7.45          | 7.47          | 7.48          |
| O & M Expenses                     | 9.58                  | 62.30         | 64.37         | 66.51         | 68.71         |
| <b>Total</b>                       | <b>23.91</b>          | <b>198.77</b> | <b>241.14</b> | <b>238.72</b> | <b>236.36</b> |

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

32. 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**

33. 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**

34. 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**

35. 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.

36. This order disposes of Petition No. 142/TT/2015.

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

Sd/-  
**(A.S. Bakshi)**  
Member



## **ANNEXURE-I**

### **DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

| Particulars                                 | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total         |
|---|-------------------|-------------------------|------------------------------------|---------------|
| SBI-DOCO Loan                               | 10.25%            | 27.00                   | 0.00                               | 27.00         |
| BOND XLVI-DOCO Loan 1                       | 9.30%             | 25.00                   | 0.00                               | 25.00         |
| BOND XLVIII-DOCO Loan 2                     | 8.20%             | 282.54                  | 0.00                               | 282.54        |
| BOND XLIX-ADDCAP FOR 2014-2015 ADD CAP Loan | 8.15%             | 0.00                    | 30.98                              | 30.98         |
| <b>Total</b>                                |                   | <b>334.54</b>           | <b>30.98</b>                       | <b>365.52</b> |

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

| (₹ in lakh)                                     |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|
| Particulars                                     | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Opening Loan                              | 334.54  | 365.52  | 365.52  | 365.52  | 365.52  |
| Cumulative Repayment of loan upto previous year | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Net Loan Opening                                | 334.54  | 365.52  | 365.52  | 365.52  | 365.52  |
| Additions during the year                       | 30.98   | 0.00    | 0.00    | 0.00    | 0.00    |
| Repayment during the year                       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Net Loan Closing                                | 365.52  | 365.52  | 365.52  | 365.52  | 365.52  |
| Average Loan                                    | 350.03  | 365.52  | 365.52  | 365.52  | 365.52  |
| Rate of Interest                                | 8.4336  | 8.4236  | 8.4236  | 8.4236  | 8.4236  |
| Interest  | 29.52   | 30.79   | 30.79   | 30.79   | 30.79   |

