

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

PETITION NO. 33/TT/2015

Coram:

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

**Date of Hearing: 06.04.2016
Date of Order : 30.04.2016**

In the matter of:

Determination of transmission tariff for Asset-A: LILO of Ckt-II of 400 kV D/C Lucknow-Bareilly TL at Shahjahanpur, Asset-B: 315 MVA 400/220 kV ICT-I with 03 Nos. of 220 kV Line Bays at Shahjahanpur, Asset-C: 315 MVA 400/220 kV ICT-II with 03 Nos. of 220 kV Line Bays at Shahjahanpur, Asset-D: Extn. of 400/220 kV GIS Gurgaon, Asset-E: 2x50 MVAR Bus Reactor at 400/220 kV Bareilly S/S along with associated bays (Existing Line Reactors retained and used as Bus Reactor) , Asset-F: 125 MVAR Bus Reactor at Shahjahanpur under "Northern Regional Transmission Strengthening Scheme" in Northern Region for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 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-122001 (Haryana)

.....Petitioner

Versus

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
Vidyut Bhawan, Vidyut Marg, Jaipur - 302005
2. Ajmer Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Limited,
400 kV GSS Building (Ground Floor),



Ajmer Road, Heerapura, Jaipur

5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171 004
6. Punjab State Power Corporation Limited,
Thermal Shed TIA,
Near 22 Phatak, Patiala-147001
7. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula, Haryana - 134109
8. Power Development Department,
Govt. Of Jammu & Kashmir,
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited,
(Formerly Uttar Pradesh State Electricity Board),
Shakti Bhawan, 14, Ashok Marg,
Lucknow - 226 001
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110002
11. BSES Yamuna Power Limited,
BSES Bhawan, Nehru Place , New Delhi.
12. BSES Rajdhani Power Limited,
BSES Bhawan, Nehru Place, New Delhi
13. North Delhi Power Limited,
Power Trading & Load Dispatch Group Cennet Building,
Adjacent To 66/11 kV Pitampura-3,
Grid Building, Near PP Jewellers Pitampura,
New Delhi - 110034
14. Chandigarh Administration,
Sector -9, Chandigarh
15. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road, Dehradun
16. North Central Railway,
Allahabad
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg,
New Delhi-110002

.....Respondents



The following were present:

For Petitioner: Shri S. S. Raju, PGCIL
Shri M. M. Mondal, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Subash C Taneja, PGCIL
Shri S.K. Venkatasan, PGCIL
Shri Pankaj Sharma, PGCIL
Smt. Sangeeta Edwards, PGCIL
Shri V. P. Rastogi, PGCIL

For Respondents: Shri Mayank Sharma, Advocate, PSPCL
Shri Gaurav Gupta, Advocate, PSPCL

ORDER

The petition has been preferred by Power Grid Corporation of India Limited (“the petitioner”) 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 COD to 31.3.2019 in respect of LILO of Ckt-II of 400 kV D/C Lucknow-Bareilly Transmission Line at Shahjahanpur, 315 MVA 400/220 kV ICT-I with 03 Nos. of 220 kV Line Bays at Shahjahanpur, 315 MVA 400/220 kV ICT-II with 03 Nos. of 220 kV Line Bays at Shahjahanpur, Extension of 400/220 kV GIS Gurgaon, 2x50 MVAR Bus Reactor at 400/220 kV Bareilly Sub-station along with associated bays (Existing Line Reactors retained and used as Bus Reactor) and 125 MVAR Bus Reactor at Shahjahanpur under “Northern Regional Transmission Strengthening Scheme” in Northern Region (hereinafter referred to as “the transmission assets”)

2. The scope of the scheme has been discussed and agreed in the 26th Standing Committee Meeting (SCM) of Northern Region Constituents held on 13.10.2008. The

scope of work covered under the Northern Regional Transmission Strengthening Scheme are as follows:-

Transmission Line:

- i) Bhiwani-Jind 400kV D/C line.
- ii) LILO of both circuits of 400 kV D/C Balia-Lucknow line at Sohawal
- iii) LILO of both circuits of 400 kV D/C Dehradun-Bagpat line (Quad) at Saharanpur
- iv) LILO of both circuits of 400 kV D/C Lucknow-Bareilly (POWERGRID) line (Quad) at Shahjanpur
- v) LILO of both circuits of 400 kV D/C Agra-Jaipur line (Quad) at Jaipur

Substations:

- i) New 2x315 MVA, 400/220 kV Substation at Sohawal
- ii) New 2x315 MVA, 400/220 kV Substation at Shahajanpur
- iii) New 2x315 MVA, 400/220 kV Substation at Saharanpur
- iv) New 2x315 MVA, 400/220 kV Substation at Jind
- v) New 2x315 MVA, 400/220 kV Substation at Jaipur (South)
- vi) Extension of Bhiwadi 400/220 kV Substation- 1x315 MVA 400/220 kV transformer
- vii) Extension of Gurgaon 400/220 kV Gas Insulated Substation
- viii) Extension of Bhiwani 765/400/220 kV Substation
- ix) Extension of Jaipur (Bassi) 400/220 kV Substation
- x) Extension of Bareilly 400/220 kV Substation

3. The transmission assets covered under the current petition are as follows:-

| S. No. | Description | Referred to as |
|--------|--|----------------|
| 1 | LILO Ckt-II of 400 kV D/C Lucknow- Bareilly TL at Shahjahanpur | Asset A |
| 2 | 315 MVA 400/220 kV ICT-I with 03 Nos. of 220 kV Line Bays at Shahjahanpur | Asset B |
| 3 | 315 MVA 400/220 kV ICT-II with 03 Nos. of 220 kV Line Bays at Shahjahanpur | Asset C |
| 4 | Extension of 400/220 kV GIS Gurgaon | Asset D |
| 5 | 2x50 MVAR Bus Reactor at 400/220 kV Bareilly S/Stn alongwith associated bays (Existing Line Reactors retained and used as Bus Reactor) | Asset E |
| 6 | 125 MVAR Bus Reactor at Shahjahanpur | Asset F |

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



a) The Investment Approval (IA) and expenditure sanction to the transmission scheme was accorded by Board of Directors of the petitioner company, vide memorandum dated 17.3.2010 at an estimated cost of ₹96568.00 lakh including IDC of ₹7003.00 lakh based on 3rd Quarter of 2009 price level.

b) The petitioner has submitted that there is time overrun in the from 18 to 28 months in Asset A, B, C and F due to delay in land acquisition, non availability of construction power, right of way (ROW) issues and flood at the Shahjahanpur Sub-station. Further in case of Asset D there is a time overrun of 16 months due to non-readiness of downstream system viz. 220kV transmission lines and the Asset E was delayed due to delay in award of contract of the asset.

c) The petitioner has also sought approval of COD for Asset D and Asset E under the Regulation 4 (3(ii)) of the 2014 Tariff Regulation due to non-commissioning of the downstream system.

d) The Commission has considered the submissions of the petitioner in respect of approval of COD and the time overrun of the transmission asset. The issue of time overrun and approval of COD in respect of commissioning of transmission asset has been dealt in the concerned para.

5. The Annual Transmission Charges 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.

6. 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/objections have been received from the public in response to the notice in newspaper. Respondent No. 9 i.e. Uttar Pradesh Power Corporation Limited (hereinafter referred to as UPPCL) has submitted its reply vide affidavit dated 31.1.2015.

7. The petitioner in response to the UPPCL’s reply has submitted a rejoinder dated 22.4.2016.

8. The petitioner vide affidavit dated 4.4.2016 has submitted the revised capital cost of the transmission assets after adjusting the accrual IDC and cash IDC. Further the petitioner has submitted revised tariff forms based on the actual COD of the transmission assets and revised capital cost based on the actual IDC discharged upto COD and after COD of the transmission assets.

9. The petitioner vide affidavit dated 19.4.2016 has submitted the reasons for cost variation and time overrun for the transmission assets. The hearing in this matter was held 6.4.2016.

10. Having heard the representatives of the petitioner and respondents, and perused the material on record, we proceed to determine the tariff in accordance with the Tariff Regulations, 2014.

11. The transmission charges claimed by the petitioner based on the actual date of commercial operation are as follows:-

(₹ in lakh)

| Asset A | | | | | |
|-----------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 165.03 | 232.94 | 242.03 | 242.03 | 242.03 |
| Interest on Loan | 211.14 | 277.58 | 267.49 | 245.99 | 224.65 |
| Return on Equity | 219.68 | 306.42 | 317.24 | 317.24 | 317.24 |
| Interest on Working Capital | 25.34 | 33.82 | 34.55 | 34.57 | 34.61 |



| Asset A | | | | | |
|--------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 210.47 | 271.82 | 280.85 | 290.18 | 299.79 |
| Total | 831.66 | 1122.58 | 1142.16 | 1130.01 | 1118.32 |

(₹ in lakh)

| Asset B | | | | | |
|-----------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 93.75 | 122.40 | 126.54 | 126.54 | 126.54 |
| Interest on Loan | 112.93 | 138.44 | 132.87 | 121.28 | 109.68 |
| Return on Equity | 105.54 | 139.08 | 144.37 | 144.37 | 144.37 |
| Interest on Working Capital | 15.39 | 19.87 | 20.32 | 20.42 | 20.53 |
| O & M Expenses | 148.51 | 193.13 | 199.55 | 206.16 | 213.01 |
| Total | 476.12 | 612.92 | 623.65 | 618.77 | 614.13 |

(₹ in lakh)

| Asset C | | | | | |
|-----------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 50.33 | 101.31 | 103.44 | 103.44 | 103.44 |
| Interest on Loan | 59.54 | 113.77 | 107.81 | 98.57 | 89.41 |
| Return on Equity | 56.77 | 115.47 | 118.52 | 118.52 | 118.52 |
| Interest on Working Capital | 6.75 | 13.46 | 13.64 | 13.62 | 13.62 |
| O & M Expenses | 52.68 | 105.91 | 109.43 | 113.06 | 116.81 |
| Total | 226.07 | 449.92 | 452.84 | 447.21 | 441.80 |

(₹ in lakh)

| Asset D | | | | | |
|-----------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 13.77 | 73.60 | 81.28 | 81.28 | 81.28 |
| Interest on Loan | 14.85 | 75.70 | 77.29 | 70.11 | 62.96 |
| Return on Equity | 15.34 | 82.41 | 91.00 | 91.00 | 91.00 |
| Interest on Working Capital | 1.99 | 10.15 | 10.72 | 10.72 | 10.72 |
| O & M Expenses | 17.70 | 87.22 | 90.12 | 93.10 | 96.20 |
| Total | 63.65 | 329.08 | 350.41 | 346.21 | 342.16 |

(₹ in lakh)

| Asset E | | | | | |
|--------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 22.70 | 30.54 | 34.41 | 34.41 | 34.41 |
| Interest on Loan | 24.60 | 30.96 | 32.41 | 29.37 | 26.34 |
| Return on Equity | 25.30 | 34.19 | 38.52 | 38.52 | 38.52 |



| Asset E | | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Interest on Working Capital | 5.00 | 5.64 | 5.98 | 6.03 | 6.08 |
| O & M Expenses | 60.30 | 62.30 | 64.37 | 66.51 | 68.71 |
| Total | 137.90 | 163.63 | 175.69 | 174.84 | 174.06 |

(₹ in lakh)

| Asset F | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 48.68 | 52.45 | 52.45 | 52.45 |
| Interest on Loan | 54.41 | 54.90 | 50.36 | 45.83 |
| Return on Equity | 55.54 | 60.32 | 60.32 | 60.32 |
| Interest on Working Capital | 7.09 | 7.42 | 7.43 | 7.45 |
| O & M Expenses | 62.30 | 64.37 | 66.51 | 68.71 |
| Total | 228.02 | 239.46 | 237.07 | 234.76 |

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

(₹ in lakh)

| Asset A | | | | | |
|--------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 21.92 | 22.65 | 23.40 | 24.18 | 24.98 |
| Maintenance Spares | 39.46 | 40.77 | 42.13 | 43.53 | 44.97 |
| Receivables | 173.27 | 187.10 | 190.36 | 188.34 | 186.39 |
| Total working capital | 234.65 | 250.52 | 255.89 | 256.05 | 256.34 |
| Rate of Interest | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 31.68 | 33.82 | 34.55 | 34.57 | 34.61 |
| Pro-rata Interest of working capital | 25.34 | 33.82 | 34.55 | 34.57 | 34.61 |

(₹ in lakh)

| Asset B | | | | | |
|--------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 15.58 | 16.09 | 16.63 | 17.18 | 17.75 |
| Maintenance Spares | 28.04 | 28.97 | 29.93 | 30.92 | 31.95 |
| Receivables | 99.89 | 102.15 | 103.94 | 103.13 | 102.36 |
| Total working capital | 143.51 | 147.21 | 150.50 | 151.23 | 152.06 |
| Rate of Interest | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 19.37 | 19.87 | 20.32 | 20.42 | 20.53 |
| Pro-rata Interest of working capital | 15.39 | 19.87 | 20.32 | 20.42 | 20.53 |



(₹ in lakh)

| Asset C | | | | | |
|--------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 8.54 | 8.83 | 9.12 | 9.42 | 9.73 |
| Maintenance Spares | 15.38 | 15.89 | 16.41 | 16.96 | 17.52 |
| Receivables | 73.32 | 74.99 | 75.47 | 74.54 | 73.63 |
| Total working capital | 97.24 | 99.71 | 101.00 | 100.92 | 100.88 |
| Rate of Interest | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 13.13 | 13.46 | 13.64 | 13.62 | 13.62 |
| Pro-rata Interest of working capital | 6.75 | 13.46 | 13.64 | 13.62 | 13.62 |

(₹ in lakh)

| Asset D | | | | | |
|--------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 7.04 | 7.27 | 7.51 | 7.76 | 8.02 |
| Maintenance Spares | 12.66 | 13.08 | 13.52 | 13.97 | 14.43 |
| Receivables | 50.59 | 54.85 | 58.40 | 57.70 | 57.03 |
| Total working capital | 70.29 | 75.20 | 79.43 | 79.43 | 79.48 |
| Rate of Interest | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 9.49 | 10.15 | 10.72 | 10.72 | 10.73 |
| Pro-rata Interest of working capital | 1.99 | 10.15 | 10.72 | 10.72 | 10.73 |

(₹ in lakh)

| Asset E | | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 5.03 | 5.19 | 5.36 | 5.54 | 5.73 |
| Maintenance Spares | 9.05 | 9.35 | 9.66 | 9.98 | 10.31 |
| Receivables | 22.98 | 27.27 | 29.28 | 29.14 | 29.01 |
| Total working capital | 37.06 | 41.81 | 44.30 | 44.66 | 45.05 |
| Rate of Interest | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 5.00 | 5.64 | 5.98 | 6.03 | 6.08 |

(₹ in lakh)

| Asset F | | | | |
|-----------------------|----------------|----------------|----------------|----------------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M Expenses | 5.19 | 5.36 | 5.54 | 5.73 |
| Maintenance Spares | 9.35 | 9.66 | 9.98 | 10.31 |
| Receivables | 38.00 | 39.91 | 39.51 | 39.13 |
| Total working capital | 52.54 | 54.93 | 55.03 | 55.17 |



| Asset F | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Rate of Interest | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 7.09 | 7.42 | 7.43 | 7.45 |

Date of Commercial Operation (COD)

13. The petitioner has submitted the actual COD of the transmission assets as follows:-

| Asset | COD (Actual) |
|--------------|---------------------|
| Asset A | 13.6.2014 |
| Asset B | 15.6.2014 |
| Asset C | 26.9.2014 |
| Asset D | 16.1.2015 |
| Asset E | 1.4.2014 |
| Asset F | 1.4.2015 |

14. The petitioner has claimed the transmission charges on the actual COD as mentioned above. The petitioner has sought approval of COD for Asset D and Asset E under the provisions of the Regulation 4 (3(ii)). The 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

(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.

XXX
XXX”

15. In case of Asset D the petitioner has submitted that due to non-readiness of downstream system viz. 220 kV lines which was to be implemented by the Haryana Vidyut Prasaran Nigam Limited (hereinafter referred to as HVPNL). The petitioner is not able to provide the transmission services for the reasons which are not attributable to itself, its suppliers, or its contractors, but on account of the delay in commissioning of downstream system by HVPNL. The petitioner has also submitted that the downstream system was commissioned by the HVPNL on 28.4.2015 i.e. after 3.35 months of the commissioning of the Asset D. Further in case of Asset E the petitioner has submitted the downstream system viz. 220 kV transmission lines to be implemented by UPPCL and the same is not yet ready. The petitioner has submitted that the case qualifies for consideration of the Commission for approval of date of commercial operation prior to the element of coming into regular service.

16. We have considered the submission of the petitioner w.r.t COD of Asset D and Asset E. It is observed that for the both these assets where the COD is on 16.1.2015 and 1.4.2014 respectively for Asset D and Asset E the petitioner has not submitted the RLDC certificate for on load trial run operation. The commercial operation date of Asset D and Asset E has been provisionally considered as 16.1.2015 and 1.4.2014 respectively and the tariff is worked out from 16.1.2015 to 31.3.2019 for Asset D and 1.4.2014 to 31.3.2019 for Asset E. However, the petitioner is directed to submit the RLDC certificate at the time of truing up.

Capital Cost

17. 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.”

18. The details of apportioned approved cost, actual expenditure incurred as on date of commercial operation and the projected additional capital expenditure for the period from COD to 31.3.2019 for the transmission assets is summarized below:-

(₹ in lakh)

| Assets | Approved apportioned cost | Capital cost as on COD | Additional capital expenditure during 2014-19 | | | Capital cost as 31.3.2019 |
|---------|---------------------------|------------------------|---|---------|---------|---------------------------|
| | | | 2014-15 | 2015-16 | Total | |
| Asset A | 6664.26 | 4335.00 | 665.51 | 366.00 | 1031.51 | 5366.51 |
| Asset B | 3442.11 | 2253.33 | 9.65 | 179.31 | 188.96 | 2442.29 |
| Asset C | 3170.56 | 1853.75 | 47.89 | 103.30 | 151.19 | 2004.94 |
| Asset D | 1473.92 | 1239.15 | 9.44 | 290.82 | 300.26 | 1539.41 |
| Asset E | 446.69 | 354.83 | 150.31 | 146.48 | 296.79 | 651.62 |
| Asset F | 1006.69 | 858.60 | | 161.81 | 161.81 | 1020.41 |

19. The capital cost as on COD and the estimated additional capital expenditure are as per the Auditor Certificates dated 23.6.2015 and 20.11.2015.

20. The petitioner has adjusted the capital cost as on COD and the additional capital expenditure during 2014-19 based on the cash IDC as and when discharged.

21. The petitioner was directed to clarify the variation in capital cost as observed in the Auditor's Certificates dated 23.6.2015 and 20.11.2015 and form-13 of the Tariff forms. The petitioner has not submitted its clarification to the same vide affidavit dated 5.4.2016.

22. The admissible capital cost of the transmission assets as on COD is worked out in the subsequent paragraphs after dealing with time overrun, cost overrun and taking into consideration the initial spares and IEDC and IDC amount.

Cost over-run

23. The approved apportioned cost and estimated completion cost as submitted by the petitioner for each asset is mentioned below:-

(₹ in lakh)

| Assets | Approved apportioned cost | Capital cost as 31.3.2019 |
|---------|---------------------------|---------------------------|
| Asset A | 6664.26 | 5366.51 |
| Asset B | 3442.11 | 2442.29 |
| Asset C | 3170.56 | 2004.94 |
| Asset D | 1473.92 | 1539.41 |
| Asset E | 446.69 | 651.62 |
| Asset F | 1006.69 | 1020.41 |

24. Based on the above table there is cost overrun in Asset D, E and F. The issue of cost overrun has been considered after dealing the IEDC/IDC to be disallowed and excess initial spares in subsequent paras. The capital cost of the transmission assets have been restricted upto the approved apportioned cost by disallowing the excess expenditure from the additional capital expenditure during 2014-19.

Time Over-run

25. As per the IA, the transmission assets were scheduled to be commissioned within 32 months of the investment approval i.e. by 1.12.2012, against which the transmission assets were commissioned with a delay of 16 to 28 months as mentioned below:-

| Asset | SCOD | COD | Time-overrun |
|---------|-----------|-----------|--------------|
| Asset A | 1.12.2012 | 13.6.2014 | 18 |
| Asset B | 1.12.2012 | 15.6.2014 | 18 |
| Asset C | 1.12.2012 | 26.9.2014 | 22 |
| Asset D | 1.12.2012 | 16.1.2015 | 26 |
| Asset E | 1.12.2012 | 1.4.2014 | 16 |
| Asset F | 1.12.2012 | 1.4.2015 | 28 |

26. The petitioner has submitted the following reasons for delay in Asset A, B, C and F:

- a) **Delay in land acquisition at Shahjahanpur:** The petitioner has submitted that it had approached to land authorities in July 2009 well before

Investment Approval dated 17.3.2010. Despite being various communication and reminder land authorities considerable time to hand over the possession of land at Shahjahanpur. Final possession of land took place in 17.2.2011 and 1.2.2012. Accordingly land authorities took 30 months to handover the possession of land at Shahjahanpur. As per the contract, levelled land with boundary wall was to be handed over to the agency by October 2010. However, the petitioner got the possession of the land from the State Land Authorities in parts on 17.2.2011 and 1.2.2012. Accordingly project got delayed by 16 months due to land Acquisition at Shahjahanpur,

b) **Delay due to flood and RoW problems at Shahjahanpur Sub-station:** The petitioner has submitted that even after the possession of the land the petitioner was not able to work continuously due to flood in Shahjahanpur and RoW problems created by the land owners intermittently. To take care of RoW issue the petitioner took help from the police to do the work at Shahjahanpur Sub-station. The petitioner further submits that the underground water table of this area is also very high. As per the soil report water table level stood at a depth of 2.50 meter to 4.60 meter below ground level which was supposed to rise further in rainy season. Therefore after flood the land for construction of Shahjahanpur Substation was highly undulated and required dewatering and levelling for construction of boundary wall .To take care of water logging at Shahjahapur Sub-station petitioner has gone for work order for de-watering. Due to these factors project got delayed for another 12 months after getting the possession of the land.

c) **Delay due to non-availability of connection of construction power:** The petitioner has further submitted that additional delay took place due to non-availability of 33 kV (permanent connection) which was supposed to be

provided by Madhyanchal Vidyut Vitaran Nigam Limited (hereinafter referred to as "MVVNL"). Petitioner has deposited the requisite amount on 29.03.2010 for getting the Power connection in time. To avoid further delay in Power Connection petitioner approached MVVNL for temporary connection of 11 kV for construction work. In response to it MVVNL provided a temporary connection at 11 kV in February 2013 after a lapse of almost 16 months. Therefore non-availability of construction power further contributed to the delay in completion of the works.

27. The petitioner has submitted that there is a delay of 16 months in commissioning of Asset E i.e. 2X50 MVAR Bus Reactor at 400/220 kV Bareilly Sub-station along with associated bays (existing line reactors retained and used as bus reactor) with respect to schedule indicated in investment approval. In this case only new bay were to be constructed in the existing sub-station. For this type of work only generally no contractor turns up for bidding. Even if somebody bid for the work, they quote very high price. In general, as a policy matter, POWERGRID clubs such small works with a big one. In this case, this work was clubbed at the FR stage with construction of new 765/400 KV S/S at Bareilly. Since there was huge delay in land acquisition for new Bareilly Sub-station and no bidder would quote for such small work, and the petitioner decided to postpone the awarding of entire contract which included these two bays.

28. Therefore award was placed in November 2011 after 21 months from the date of investment approval but actual delay reduced to 16 months by expediting the work.

29. Further it is submitted that 400 kV D/C Lucknow- Bareilly Transmission Line is a long line and 2x50 MVAR line reactor was getting utilized along with this line.

Therefore commissioning of Asset E i.e. "2x50 MVAR Bus Reactor at 400/220 kV Bareilly S/Stn along with associated bays (Existing Line Reactors retained and used as Bus Reactor)" was supposed to be done after commissioning of Asset A i.e. "LILO Ckt-II of 400 kV D/C Lucknow- Bareilly TL at Shahjahanpur" Petitioner was waiting for Asset A to be commissioned but commissioning of Asset A was getting delayed due to land acquisition and other issues as explained above therefore petitioner commissioned Asset E on 1.4.2014.

30. In case of delay in Asset D the petitioner has submitted that the delay is on account of delay in commissioning of 220 kV downstream system lines which was supposed to be commissioned by HVPNL. The petitioner has claimed the COD of the Asset D as 16.1.2015. However HVPNL has intimated that the downstream lines have been commissioned on 28.4.2015.

31. We have considered the submissions made by the petitioner to justify the time overrun in respect of instant assets.

32. With regard to the delay of 16 months due to land acquisition in Asset A, B, C and F we are of the view that the delay was beyond the control of the petitioner and thus the delay of 16 months is condoned.

33. Further in case of delay of 16 months in Asset A, B, C and F due to non-availability of construction power the Commission is of the view that the petitioner could have made alternative arrangements for construction power and avoided the delay. Considering the nature and quantum of the construction power requirement the petitioner should have made the use alternative power arrangements like DG sets to execute the work rather than waiting for 16 months and delaying the complete project. Thus delay of 16 months on account of non-availability of construction power is not condoned.

34. In case of delay of 12 months in Asset A, B, C and F due to flood and high water table at Shahjahanpur Sub-station site we are of the view that the petitioner should have taken proper measures for the high water table and risk of flood at the construction site based on the soil test reports and change in drawings. Any delay due to additional contracts of de-watering or levelling is only due to inefficient planning and execution of works by the petitioner. Hence the delay of 12 months on account of flood is not condoned.

35. Further in case of time overrun of 16 months in Asset E on account of delay in award of contract for the asset we do not condone the delay since the issue is controllable and delay is only on account of poor planning.

36. With regard to time overrun of 26 months in Asset D due to delay in commissioning of downstream system of HVPNL, we condone the delay.

37. Based on the discussions above the time overrun allowed and disallowed by the Commission in respect of each asset is mentioned below:-

(in months)

| Assets | Total Delay | Delay in Land Acquisition | Flood and high water table | NA of construction power | Delay in award of contract | Delay due to non-commissioning of downstream system | Total period condoned | Not-condoned |
|---------|-------------|---------------------------|----------------------------|--------------------------|----------------------------|---|-----------------------|--------------|
| Asset A | 18 | 16 | 12 | 16 | - | - | 16 | 2 |
| Asset B | 18 | 16 | 12 | 16 | - | - | 16 | 2 |
| Asset C | 22 | 16 | 12 | 16 | - | - | 16 | 6 |
| Asset D | 26 | - | - | - | - | 26 | 26 | - |
| Asset E | 16 | - | - | - | 16 | - | - | 16 |
| Asset F | 28 | 16 | 12 | 16 | - | - | 16 | 12 |

IEDC and IDC

38. The petitioner has submitted the IEDC and IDC for the period from SCOD to COD as mentioned below:-

| Assets | IEDC/IDC from SCOD to COD (₹ in lakh) | |
|---------|---------------------------------------|--------|
| | IEDC | IDC |
| Asset A | 100.23 | 151.11 |
| Asset B | 65.25 | 98.37 |
| Asset C | 48.26 | 83.75 |
| Asset D | 53.32 | 87.41 |
| Asset E | 12.35 | 18.34 |
| Asset F | 33.43 | 49.16 |

39. As per the discussion above in the time overrun section the IEDC and IDC disallowed based on the time overrun condoned and that no condoned is computed below:-

| Assets | IEDC/IDC from SCOD to COD | | Period of IDC/IEDC (months) | Delay condoned (months) | Period for which IDC/IEDC disallowed (months) | Total IEDC/IDC disallowed (₹ in lakh) | To be disallowed in add. Cap* (₹ in lakh) | Total IEDC/IDC disallowed from capital cost as on COD* (₹ in lakh) |
|---------|---------------------------|-----------------|-----------------------------|-------------------------|---|---------------------------------------|---|--|
| | IEDC (₹ in lakh) | IDC (₹ in lakh) | | | | | | |
| Asset A | 100.23 | 151.11 | 18 | 16 | 2 | 32.52 | 3.63 | 28.89 |
| Asset B | 65.25 | 98.37 | 18 | 16 | 2 | 21.68 | 6.93 | 14.75 |
| Asset C | 48.26 | 83.75 | 22 | 16 | 6 | 35.26 | 31.95 | 3.31 |
| Asset E | 12.35 | 18.34 | 16 | 0 | 16 | 30.69 | 7.85 | 22.84 |
| Asset F | 33.43 | 49.16 | 28 | 16 | 12 | 35.36 | 0.21 | 35.15 |

*The petitioner has submitted the cash IDC discharged upto COD and after COD. The IDC disallowed is deducted based on the same.

Initial Spares

40. The initial spares claimed by the petitioner towards the transmission assets as mentioned below:-

| Assets | (₹ in lakh) | | | |
|---------|------------------------|-------|------------------------|---------|
| | Initial Spares Claimed | | Plant & Machinery Cost | |
| | S/S | TL | S/S | TL |
| Asset A | 41.83 | 20.98 | 1650.97 | 2135.79 |
| Asset B | 44.23 | - | 1872.32 | - |
| Asset C | 30.93 | - | 1557.16 | - |
| Asset D | 201.91 | - | 1218.56 | - |
| Asset E | - | - | - | - |
| Asset F | 26.32 | - | 770.43 | - |

41. hawse have computed the allowable initial spares and the excess initial spares based on the norms in accordance with clause 13 of the Tariff Regulations, as below:-

(₹ in lakh)

| Assets | Initial Spares Claimed | | P&M Cost | | Approved Limit | | Allowable Initial Spares | | Excess Initial Spares | |
|---------|------------------------|-------|----------|---------|----------------|-------|--------------------------|-------|-----------------------|----|
| | S/S | TL | S/S | TL | S/S | TL | S/S | TL | S/S | TL |
| Asset A | 41.83 | 20.98 | 1650.97 | 2135.79 | 4.00% | 1.00% | 67.05 | 21.36 | - | - |
| Asset B | 44.23 | - | 1872.32 | - | 4.00% | - | 76.17 | - | - | - |
| Asset C | 30.93 | - | 1557.16 | - | 4.00% | - | 63.59 | - | - | - |
| Asset D | 201.91 | - | 1218.56 | - | 5.00% | - | 53.51 | - | 148.40 | - |
| Asset F | 26.32 | - | 770.43 | - | 4.00% | - | 31.00 | - | - | - |

42. The initial spares claimed for Asset D are in excess of ₹148.40 lakh and the same has been disallowed form the capital cost of the asset.

43. Based on the above, capital costs considered as on COD, after deduction of IDC, IEDC and excess initial spares for the purpose of the determination of transmission tariff are as below:-

(₹ in lakh)

| Assets | Capital cost as on COD |
|---------|------------------------|
| Asset A | 4306.11 |
| Asset B | 2238.58 |
| Asset C | 1850.44 |
| Asset D | 1090.75 |
| Asset E | 331.99 |
| Asset F | 823.45 |

Additional Capital Expenditure

44. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope

of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities recognized to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
- (v) Change in law or compliance of any existing law.”

45. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines cut-off date as follows:-

“Cut-off Date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cut - off date shall be 31st March of the year closing after three years of the year of commercial operation:

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer ”

46. The petitioner has claimed estimated additional capital expenditure towards balance and retention payments as mentioned below:-

(₹ in lakh)

| Assets | Approved apportioned cost | Capital cost as on COD | Additional capital expenditure during 2014-19 | | | Capital cost as 31.3.2019 |
|---------|---------------------------|------------------------|---|---------|---------|---------------------------|
| | | | 2014-15 | 2015-16 | Total | |
| Asset A | 6664.26 | 4335.00 | 665.51 | 366.00 | 1031.51 | 5366.51 |
| Asset B | 3442.11 | 2253.33 | 9.65 | 179.31 | 188.96 | 2442.29 |
| Asset C | 3170.56 | 1853.75 | 47.89 | 103.30 | 151.19 | 2004.94 |
| Asset D | 1473.92 | 1239.15 | 9.44 | 290.82 | 300.26 | 1539.41 |
| Asset E | 446.69 | 354.83 | 150.31 | 146.48 | 296.79 | 651.62 |
| Asset F | 1006.69 | 858.60 | - | 161.81 | 161.81 | 1020.41 |

47. The petitioner vide its submission dated 4.4.2016 has revised the tariff forms and has adjusted the cash IDC as and when discharged i.e. upto COD and after COD. Further the petitioner has submitted the IDC and IEDC discharged from SCOD to COD. The IEDC and IDC have been disallowed as discussed in Para No. 41. As discussed above there is cost overrun in Asset E, thus the estimated completion cost

has been restricted upto the approved apportioned by disallowing the additional capital expenditure of ₹174.24 lakh during 2014-15 and 2015-16.

48. The additional capital expenditure claimed by the petitioner is on account of balance and retention payments. The same is allowed under Regulation 14(1) of 2014 Tariff Regulations, subject to true up on actual basis. Thus the additional capital expenditure allowed for the 2014-19 tariff period is as follows:-

(₹ in lakh)

| Assets | Approved apportioned cost | Capital cost as on COD | Additional capital expenditure during 2014-19 | | | Capital cost as 31.3.2019 |
|---------|---------------------------|------------------------|---|---------|---------|---------------------------|
| | | | 2014-15 | 2015-16 | Total | |
| Asset A | 6664.26 | 4306.11 | 661.88 | 366.00 | 1027.88 | 5333.99 |
| Asset B | 3442.11 | 2238.58 | 2.72 | 179.31 | 182.03 | 2420.61 |
| Asset C | 3170.56 | 1850.44 | 26.61 | 92.63 | 119.24 | 1969.68 |
| Asset D | 1473.92 | 1090.75 | 9.44 | 290.82 | 300.26 | 1391.01 |
| Asset E | 446.69 | 331.99 | 114.70 | 0.00 | 114.70 | 446.69 |
| Asset F | 1006.69 | 823.45 | 0.00 | 161.60 | 161.60 | 985.05 |

Debt: Equity

49. Clause (1) of Regulation 19 of the 2014 Tariff Regulations provides 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.”

The petitioner has considered the debt: equity ratio of 70:30, which is in line with the 2014 Tariff Regulations, hence the same is considered for calculation of tariff.

50. Accordingly, the details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(₹ in lakh)

| Asset A | | | | | | |
|--------------|----------------|---------------|---|---------------|-----------------|---------------|
| Funding | As on COD | (%) | Additional capital expenditure during 2014-19 | (%) | As on 31.3.2019 | (%) |
| Debt | 3014.28 | 70.00 | 719.52 | 70.00 | 3733.79 | 70.00 |
| Equity | 1291.83 | 30.00 | 308.36 | 30.00 | 1600.20 | 30.00 |
| Total | 4306.11 | 100.00 | 1027.88 | 100.00 | 5333.99 | 100.00 |
| Asset B | | | | | | |
| Funding | As on COD | (%) | Additional capital expenditure during 2014-19 | (%) | As on 31.3.2019 | (%) |
| Debt | 1567.01 | 70.00 | 127.42 | 70.00 | 1694.43 | 70.00 |
| Equity | 671.57 | 30.00 | 54.61 | 30.00 | 726.18 | 30.00 |
| Total | 2238.58 | 100.00 | 182.03 | 100.00 | 2420.61 | 100.00 |
| Asset C | | | | | | |
| Funding | As on COD | (%) | Additional capital expenditure during 2014-19 | (%) | As on 31.3.2019 | (%) |
| Debt | 1295.31 | 70.00 | 83.47 | 70.00 | 1378.78 | 70.00 |
| Equity | 555.13 | 30.00 | 35.77 | 30.00 | 590.91 | 30.00 |
| Total | 1850.44 | 100.00 | 119.24 | 100.00 | 1969.68 | 100.00 |
| Asset D | | | | | | |
| Funding | As on COD | (%) | Additional capital expenditure during 2014-19 | (%) | As on 31.3.2019 | (%) |
| Debt | 763.52 | 70.00 | 210.18 | 70.00 | 973.71 | 70.00 |
| Equity | 327.22 | 30.00 | 90.08 | 30.00 | 417.30 | 30.00 |
| Total | 1090.75 | 100.00 | 300.26 | 100.00 | 1391.01 | 100.00 |
| Asset E | | | | | | |
| Funding | As on COD | (%) | Additional capital expenditure during 2014-19 | (%) | As on 31.3.2019 | (%) |
| Debt | 232.39 | 70.00 | 80.29 | 70.00 | 312.68 | 70.00 |
| Equity | 99.60 | 30.00 | 34.41 | 30.00 | 134.01 | 30.00 |
| Total | 331.99 | 100.00 | 114.70 | 100.00 | 446.69 | 100.00 |

| Asset F | | | | | | |
|--------------|---------------|---------------|---|---------------|-----------------|---------------|
| Funding | As on COD | (%) | Additional capital expenditure during 2014-19 | (%) | As on 31.3.2019 | (%) |
| Debt | 576.42 | 70.00 | 113.12 | 70.00 | 689.54 | 70.00 |
| Equity | 247.04 | 30.00 | 48.48 | 30.00 | 295.52 | 30.00 |
| Total | 823.45 | 100.00 | 161.60 | 100.00 | 985.05 | 100.00 |

Return on Equity (“ROE”)

51. Clause (1) and (2) of Regulations 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.”

52. 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.

53. 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.

54. 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)

| Asset A | | | | | |
|----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 1291.83 | 1490.40 | 1600.20 | 1600.20 | 1600.20 |
| Additions | 198.56 | 109.80 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 1490.40 | 1600.20 | 1600.20 | 1600.20 | 1600.20 |
| Average Equity | 1391.11 | 1545.30 | 1600.20 | 1600.20 | 1600.20 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 218.24 | 304.51 | 315.33 | 315.33 | 315.33 |

(₹ in lakh)

| Asset B | | | | | |
|----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 671.57 | 672.39 | 726.18 | 726.18 | 726.18 |
| Additions | 0.81 | 53.79 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 672.39 | 726.18 | 726.18 | 726.18 | 726.18 |
| Average Equity | 671.98 | 699.29 | 726.18 | 726.18 | 726.18 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 104.70 | 137.80 | 143.10 | 143.10 | 143.10 |

(₹ in lakh)

| Asset C | | | | | |
|----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 556.12 | 570.48 | 598.27 | 598.27 | 598.27 |
| Additions | 14.36 | 27.79 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 570.48 | 598.27 | 598.27 | 598.27 | 598.27 |
| Average Equity | 563.30 | 584.37 | 598.27 | 598.27 | 598.27 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 56.59 | 115.15 | 117.89 | 117.89 | 117.89 |

(₹ in lakh)

| Asset D | | | | | |
|----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 327.22 | 330.06 | 417.30 | 417.30 | 417.30 |
| Additions | 2.83 | 87.25 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 330.06 | 417.30 | 417.30 | 417.30 | 417.30 |
| Average Equity | 328.64 | 373.68 | 417.30 | 417.30 | 417.30 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 13.24 | 73.64 | 82.23 | 82.23 | 82.23 |

(₹ in lakh)

| Asset E | | | | | |
|----------------------------------|----------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 99.60 | 134.01 | 134.01 | 134.01 | 134.01 |
| Additions | 34.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 134.01 | 134.01 | 134.01 | 134.01 | 134.01 |
| Average Equity | 116.80 | 134.01 | 134.01 | 134.01 | 134.01 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |



| Asset E | | | | | |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 22.91 | 26.41 | 26.41 | 26.41 | 26.41 |

(₹ in lakh)

| Asset F | | | | |
|----------------------------------|----------------|----------------|----------------|----------------|
| Return on Equity | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 247.04 | 295.52 | 295.52 | 295.52 |
| Additions | 48.48 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 295.52 | 295.52 | 295.52 | 295.52 |
| Average Equity | 271.28 | 295.52 | 295.52 | 295.52 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 53.46 | 58.23 | 58.23 | 58.23 |

Interest on Loan (“IoL”)

55. Clause 5 and 6 of Regulation 26 of 2014 Tariff Regulations provides that:-

“(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.”

56. 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 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)

| Asset A | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Loan | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 3014.28 | 3477.59 | 3733.79 | 3733.79 | 3733.79 |
| Cumulative Repayment upto Previous Year | 0.00 | 163.73 | 394.97 | 635.28 | 875.60 |
| Net Loan-Opening | 3014.28 | 3313.86 | 3338.83 | 3098.51 | 2858.19 |
| Additions | 463.32 | 256.20 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 163.73 | 231.24 | 240.32 | 240.32 | 240.32 |
| Net Loan-Closing | 3313.86 | 3338.83 | 3098.51 | 2858.19 | 2617.88 |
| Average Loan | 3164.07 | 3326.34 | 3218.67 | 2978.35 | 2738.04 |
| Weighted Average Rate of Interest on Loan (%) | 8.2872 | 8.2940 | 8.2626 | 8.2124 | 8.1590 |
| Interest on Loan | 209.77 | 275.89 | 265.94 | 244.60 | 223.40 |

(₹ in lakh)

| Asset B | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Loan | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 1567.01 | 1568.91 | 1694.43 | 1694.43 | 1694.43 |
| Cumulative Repayment upto Previous Year | 0.00 | 93.01 | 214.27 | 339.68 | 465.09 |
| Net Loan-Opening | 1567.01 | 1475.90 | 1480.16 | 1354.75 | 1229.33 |
| Additions | 1.91 | 125.52 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 93.01 | 121.26 | 125.41 | 125.41 | 125.41 |
| Net Loan-Closing | 1475.90 | 1480.16 | 1354.75 | 1229.33 | 1103.92 |
| Average Loan | 1521.45 | 1478.03 | 1417.45 | 1292.04 | 1166.63 |
| Weighted Average Rate of Interest on Loan (%) | 9.2674 | 9.2795 | 9.2907 | 9.3032 | 9.3179 |
| Interest on Loan | 112.03 | 137.15 | 131.69 | 120.20 | 108.70 |

(₹ in lakh)

| Asset C | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Loan | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 1294.32 | 1306.57 | 1371.42 | 1371.42 | 1371.42 |
| Cumulative Repayment upto Previous Year | 0.00 | 49.80 | 149.54 | 251.15 | 352.75 |
| Net Loan-Opening | 1294.32 | 1256.78 | 1221.88 | 1120.27 | 1018.66 |
| Additions | 12.25 | 64.84 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 49.80 | 99.74 | 101.61 | 101.61 | 101.61 |
| Net Loan-Closing | 1256.78 | 1221.88 | 1120.27 | 1018.66 | 917.06 |
| Average Loan | 1275.55 | 1239.33 | 1171.07 | 1069.47 | 967.86 |



| Asset C | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Loan | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Weighted Average Rate of Interest on Loan (%) | 8.9869 | 8.9841 | 8.9831 | 8.9881 | 9.0019 |
| Interest on Loan | 58.73 | 111.34 | 105.20 | 96.13 | 87.13 |

(₹ in lakh)

| Asset D | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Loan | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 763.52 | 770.13 | 973.71 | 973.71 | 973.71 |
| Cumulative Repayment upto Previous Year | 0.00 | 11.89 | 77.65 | 151.10 | 224.54 |
| Net Loan-Opening | 763.52 | 758.25 | 896.05 | 822.61 | 749.16 |
| Additions | 6.61 | 203.57 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 11.89 | 65.77 | 73.45 | 73.45 | 73.45 |
| Net Loan-Closing | 758.25 | 896.05 | 822.61 | 749.16 | 675.72 |
| Average Loan | 760.88 | 827.15 | 859.33 | 785.89 | 712.44 |
| Weighted Average Rate of Interest on Loan (%) | 8.1989 | 8.1826 | 8.1400 | 8.0745 | 7.9998 |
| Interest on Loan | 12.82 | 67.68 | 69.95 | 63.46 | 56.99 |

(₹ in lakh)

| Asset E | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Interest on Loan | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 232.39 | 312.68 | 312.68 | 312.68 | 312.68 |
| Cumulative Repayment upto Previous Year | 0.00 | 20.56 | 44.14 | 67.73 | 91.31 |
| Net Loan-Opening | 232.39 | 292.13 | 268.54 | 244.96 | 221.37 |
| Additions | 80.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 20.56 | 23.59 | 23.59 | 23.59 | 23.59 |
| Net Loan-Closing | 292.13 | 268.54 | 244.96 | 221.37 | 197.78 |
| Average Loan | 262.26 | 280.33 | 256.75 | 233.16 | 209.58 |
| Weighted Average Rate of Interest on Loan (%) | 8.4936 | 8.4396 | 8.4038 | 8.3609 | 8.3130 |
| Interest on Loan | 22.28 | 23.66 | 21.58 | 19.49 | 17.42 |

(₹ in lakh)

| Asset F | | | | |
|---|----------------|----------------|----------------|----------------|
| Interest on Loan | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 576.42 | 689.54 | 689.54 | 689.54 |
| Cumulative Repayment upto Previous Year | 0.00 | 46.83 | 97.43 | 148.03 |
| Net Loan-Opening | 576.42 | 642.70 | 592.10 | 541.51 |
| Additions | 113.12 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 46.83 | 50.60 | 50.60 | 50.60 |
| Net Loan-Closing | 642.70 | 592.10 | 541.51 | 490.91 |
| Average Loan | 609.56 | 617.40 | 566.80 | 516.21 |
| Weighted Average Rate of Interest on Loan (%) | 8.5920 | 8.5864 | 8.5806 | 8.5745 |
| Interest on Loan | 52.37 | 53.01 | 48.64 | 44.26 |



Depreciation

57. Clause (2), (5) and (6) of Regulation 27 of 2014 Tariff Regulations provide that:-

"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."

58. 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"

59. The depreciation has been worked out considering the admitted capital cost as on COD and the additional capital expenditure admitted during 2014-19 period. The weighted average useful life of the transmission assets has been considered in

accordance with the above regulation. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)

| Asset A | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Depreciation | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 4306.11 | 4967.99 | 5333.99 | 5333.99 | 5333.99 |
| Additional Capitalisation | 661.88 | 366.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 4967.99 | 5333.99 | 5333.99 | 5333.99 | 5333.99 |
| Average Gross Block | 4637.05 | 5150.99 | 5333.99 | 5333.99 | 5333.99 |
| Rate of Depreciation (%) | 4.41 | 4.49 | 4.51 | 4.51 | 4.51 |
| Depreciable Value | 3499.57 | 3962.11 | 4126.81 | 4126.81 | 4126.81 |
| Balance useful life of the asset | 31 | 30 | 29 | 28 | 27 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |
| Remaining Depreciable Value | 3499.57 | 3798.38 | 3731.85 | 3491.53 | 3251.22 |
| Depreciation during the year | 163.73 | 231.24 | 240.32 | 240.32 | 240.32 |
| Cumulative depreciation (incl. of AAD) | 163.73 | 394.97 | 635.28 | 875.60 | 1115.91 |

(₹ in lakh)

| Asset B | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Depreciation | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 2238.58 | 2241.30 | 2420.61 | 2420.61 | 2420.61 |
| Additional Capitalisation | 2.72 | 179.31 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 2241.30 | 2420.61 | 2420.61 | 2420.61 | 2420.61 |
| Average Gross Block | 2239.94 | 2330.96 | 2420.61 | 2420.61 | 2420.61 |
| Rate of Depreciation (%) | 5.23 | 5.20 | 5.18 | 5.18 | 5.18 |
| Depreciable Value | 2015.95 | 2097.86 | 2178.55 | 2178.55 | 2178.55 |
| Balance useful life of the asset | 25 | 24 | 23 | 22 | 21 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |
| Remaining Depreciable Value | 2015.95 | 2004.85 | 1964.28 | 1838.87 | 1713.46 |
| Depreciation during the year | 93.01 | 121.26 | 125.41 | 125.41 | 125.41 |
| Cumulative depreciation (incl. of AAD) | 93.01 | 214.27 | 339.68 | 465.09 | 590.50 |

(₹ in lakh)

| Asset C | | | | | |
|----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Depreciation | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 1850.44 | 1877.05 | 1969.68 | 1969.68 | 1969.68 |
| Additional Capitalisation | 26.61 | 92.63 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 1877.05 | 1969.68 | 1969.68 | 1969.68 | 1969.68 |
| Average Gross Block | 1863.75 | 1923.37 | 1969.68 | 1969.68 | 1969.68 |
| Rate of Depreciation (%) | 5.21 | 5.19 | 5.16 | 5.16 | 5.16 |
| Depreciable Value | 1677.37 | 1731.03 | 1772.72 | 1772.72 | 1772.72 |
| Balance useful life of the asset | 25 | 24 | 23 | 22 | 21 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |



| | | | | | |
|--|---------|---------|---------|---------|---------|
| Remaining Depreciable Value | 1677.37 | 1681.24 | 1623.18 | 1521.57 | 1419.96 |
| Depreciation during the year | 49.80 | 99.74 | 101.61 | 101.61 | 101.61 |
| Cumulative depreciation (incl. of AAD) | 49.80 | 149.54 | 251.15 | 352.75 | 454.36 |

(₹ in lakh)

| Asset D | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Depreciation | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 1090.75 | 1100.19 | 1391.01 | 1391.01 | 1391.01 |
| Additional Capitalisation | 9.44 | 290.82 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 1100.19 | 1391.01 | 1391.01 | 1391.01 | 1391.01 |
| Average Gross Block | 1095.47 | 1245.60 | 1391.01 | 1391.01 | 1391.01 |
| Rate of Depreciation (%) | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Depreciable Value | 985.92 | 1121.04 | 1251.91 | 1251.91 | 1251.91 |
| Balance useful life of the asset | 25 | 24 | 23 | 22 | 21 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |
| Remaining Depreciable Value | 985.92 | 1109.15 | 1174.25 | 1100.81 | 1027.36 |
| Depreciation during the year | 11.89 | 65.77 | 73.45 | 73.45 | 73.45 |
| Cumulative depreciation (incl. of AAD) | 11.89 | 77.65 | 151.10 | 224.54 | 297.99 |

(₹ in lakh)

| Asset E | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Depreciation | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 331.99 | 446.69 | 446.69 | 446.69 | 446.69 |
| Additional Capitalisation | 114.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 446.69 | 446.69 | 446.69 | 446.69 | 446.69 |
| Average Gross Block | 389.34 | 446.69 | 446.69 | 446.69 | 446.69 |
| Rate of Depreciation (%) | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Depreciable Value | 350.41 | 402.02 | 402.02 | 402.02 | 402.02 |
| Balance useful life of the asset | 25 | 24 | 23 | 22 | 21 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |
| Remaining Depreciable Value | 350.41 | 381.46 | 357.88 | 334.29 | 310.71 |
| Depreciation during the year | 20.56 | 23.59 | 23.59 | 23.59 | 23.59 |
| Cumulative depreciation (incl. of AAD) | 20.56 | 44.14 | 67.73 | 91.31 | 114.90 |

(₹ in lakh)

| Asset F | | | | |
|----------------------------------|----------------|----------------|----------------|----------------|
| Depreciation | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 823.45 | 985.05 | 985.05 | 985.05 |
| Additional Capitalisation | 161.60 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 985.05 | 985.05 | 985.05 | 985.05 |
| Average Gross Block | 904.25 | 985.05 | 985.05 | 985.05 |
| Rate of Depreciation (%) | 5.18 | 5.14 | 5.14 | 5.14 |
| Depreciable Value | 813.83 | 886.55 | 886.55 | 886.55 |
| Balance useful life of the asset | 25.00 | 24.00 | 23.00 | 22.00 |



| Asset F | | | | |
|--|----------------|----------------|----------------|----------------|
| Depreciation | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Elapsed life | 0.00 | 1.00 | 2.00 | 3.00 |
| Remaining Depreciable Value | 72.72 | 98.61 | 48.01 | -2.59 |
| Depreciation during the year | 46.83 | 50.60 | 50.60 | 50.60 |
| Cumulative depreciation (incl. of AAD) | 46.83 | 97.43 | 148.03 | 198.63 |

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

60. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specify the norms for O&M Expenses for the transmission system. The total allowable O&M Expenses for the instant assets have been worked out and allowed are as follows:-

| Asset A | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 400 kV Bays: | | | | | |
| No. of Bays | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Norms (₹ lakh/Bay) | 60.300 | 62.300 | 64.370 | 66.510 | 68.710 |
| Line: D/C (Twin Conductor): | | | | | |
| Line Length (km) | 30.95 | 30.95 | 30.95 | 30.95 | 30.95 |
| Norms (₹ lakh/km) | 0.707 | 0.731 | 0.755 | 0.780 | 0.806 |
| Total O&M Expenses (₹ lakh) | 263.08 | 271.82 | 280.85 | 290.18 | 299.79 |

| Asset B | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 220 kV Bays: | | | | | |
| No. of Bays | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Norms (₹ lakh/Bay) | 42.210 | 43.610 | 45.060 | 46.550 | 48.100 |
| 400 kV Bays: | | | | | |
| No. of Bays | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Norms (₹ lakh/Bay) | 60.300 | 62.300 | 64.370 | 66.510 | 68.710 |
| Total O&M Expenses (₹ lakh) | 186.93 | 193.13 | 199.55 | 206.16 | 213.01 |

| Asset C | | | | | |
|---------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 220 kV Bays: | | | | | |
| No. of Bays | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Norms (₹ lakh/Bay) | 42.210 | 43.610 | 45.060 | 46.550 | 48.100 |



| 400 kV Bays: | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| No. of Bays | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Norms (₹ lakh/Bay) | 60.300 | 62.300 | 64.370 | 66.510 | 68.710 |
| Total O&M Expenses (₹ lakh) | 102.51 | 105.91 | 109.43 | 113.06 | 116.81 |

| Asset D | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 220 kV Bays: | | | | | |
| No. of Bays | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Norms (₹ lakh/Bay) | 42.210 | 43.610 | 45.060 | 46.550 | 48.100 |
| Total O&M Expenses (₹ lakh) | 84.42 | 87.22 | 90.12 | 93.10 | 96.20 |

| Asset E | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 400 kV Bays: | | | | | |
| No. of Bays | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Norms (₹ lakh/Bay) | 60.300 | 62.300 | 64.370 | 66.510 | 68.710 |
| Total O&M Expenses (₹ lakh) | 60.30 | 62.30 | 64.37 | 66.51 | 68.71 |

| Asset F | | | | | |
|--|----------------|----------------|----------------|----------------|-------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| 400 kV Bays: | | | | | |
| No. of Bays | 24.00 | 24.00 | 24.00 | 24.00 | 24.00 |
| Norms (₹ lakh/Bay) | 62.300 | 64.370 | 66.510 | 68.710 | |
| Total O&M Expenses (₹ lakh) | 62.30 | 64.37 | 66.51 | 68.71 | |

61. 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.

62. 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

63. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies 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;”

64. The petitioner has considered the rate of interest on working capital to be 13.50%.

65. 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 components of the working capital and interest thereon have been worked as follows:-

(₹ in lakh)

| Asset A | | | | | |
|------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M expenses | 21.92 | 22.65 | 23.40 | 24.18 | 24.98 |
| Maintenance Spares | 39.46 | 40.77 | 42.13 | 43.53 | 44.97 |
| Receivables | 172.39 | 186.19 | 189.48 | 187.48 | 185.55 |
| Total | 233.77 | 249.62 | 255.01 | 255.19 | 255.50 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 25.25 | 33.70 | 34.43 | 34.45 | 34.49 |



(₹ in lakh)

| Asset B | | | | | |
|------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M expenses | 15.57 | 16.09 | 16.62 | 17.17 | 17.74 |
| Maintenance Spares | 28.04 | 28.97 | 29.93 | 30.92 | 31.95 |
| Receivables | 99.35 | 101.52 | 103.33 | 102.53 | 101.78 |
| Total | 142.96 | 146.58 | 149.89 | 150.63 | 151.47 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 15.33 | 19.79 | 20.23 | 20.34 | 20.45 |

(₹ in lakh)

| Asset C | | | | | |
|------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M expenses | 8.54 | 8.82 | 9.12 | 9.42 | 9.73 |
| Maintenance Spares | 15.38 | 15.89 | 16.41 | 16.96 | 17.52 |
| Receivables | 72.98 | 74.25 | 74.61 | 73.70 | 72.82 |
| Total | 96.90 | 98.96 | 100.14 | 100.08 | 100.08 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 6.70 | 13.36 | 13.52 | 13.51 | 13.51 |

(₹ in lakh)

| Asset D | | | | | |
|------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M expenses | 7.03 | 7.27 | 7.51 | 7.76 | 8.01 |
| Maintenance Spares | 12.66 | 13.08 | 13.52 | 13.97 | 14.43 |
| Receivables | 46.33 | 50.65 | 54.32 | 53.74 | 53.18 |
| Total | 66.03 | 71.00 | 75.34 | 75.46 | 75.62 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 1.83 | 9.58 | 10.17 | 10.19 | 10.21 |

(₹ in lakh)

| Asset E | | | | | |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M expenses | 5.03 | 5.19 | 5.36 | 5.54 | 5.73 |
| Maintenance Spares | 9.05 | 9.35 | 9.66 | 9.98 | 10.31 |
| Receivables | 21.81 | 23.51 | 23.52 | 23.55 | 23.58 |
| Total | 35.88 | 38.05 | 38.54 | 39.06 | 39.61 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 4.84 | 5.14 | 5.20 | 5.27 | 5.35 |



(₹ in lakh)

| Asset F | | | | |
|------------------------------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O & M expenses | 5.19 | 5.36 | 5.54 | 5.72 |
| Maintenance Spares | 9.35 | 9.66 | 9.98 | 10.31 |
| Receivables | 36.99 | 38.92 | 38.55 | 38.19 |
| Total | 51.52 | 53.93 | 54.06 | 54.22 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 6.96 | 7.28 | 7.30 | 7.32 |

ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD

66. The transmission charges allowed for the instant transmission assets for the 2014-19 tariff period are summarised below:-

(₹ in lakh)

| Asset A | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | | | | | |
| Opening Gross Block | 4306.11 | 4967.99 | 5333.99 | 5333.99 | 5333.99 |
| Additional Capitalisation | 661.88 | 366.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 4967.99 | 5333.99 | 5333.99 | 5333.99 | 5333.99 |
| Average Gross Block | 4637.05 | 5150.99 | 5333.99 | 5333.99 | 5333.99 |
| Rate of Depreciation (%) | 4.41 | 4.49 | 4.51 | 4.51 | 4.51 |
| Depreciable Value | 3499.57 | 3962.11 | 4126.81 | 4126.81 | 4126.81 |
| Balance useful life of the asset | 31.00 | 30.00 | 29.00 | 28.00 | 27.00 |
| Elapsed life | 0.00 | 1.00 | 2.00 | 3.00 | 4.00 |
| Remaining Depreciable Value | 3499.57 | 3798.38 | 3731.85 | 3491.53 | 3251.22 |
| Depreciation during the year | 163.73 | 231.24 | 240.32 | 240.32 | 240.32 |
| Cumulative depreciation (incl. of AAD) | 163.73 | 394.97 | 635.28 | 875.60 | 1115.91 |
| Interest on Loan | | | | | |
| Gross Normative Loan | 3014.28 | 3477.59 | 3733.79 | 3733.79 | 3733.79 |
| Cumulative Repayments upto Previous Year | 0.00 | 163.73 | 394.97 | 635.28 | 875.60 |
| Net Loan-Opening | 3014.28 | 3313.86 | 3338.83 | 3098.51 | 2858.19 |
| Additions | 463.32 | 256.20 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 163.73 | 231.24 | 240.32 | 240.32 | 240.32 |
| Net Loan-Closing | 3313.86 | 3338.83 | 3098.51 | 2858.19 | 2617.88 |
| Average Loan | 3164.07 | 3326.34 | 3218.67 | 2978.35 | 2738.04 |
| Weighted Average Rate of Interest on Loan (%) | 8.2872 | 8.2940 | 8.2626 | 8.2124 | 8.1590 |
| Interest on Loan | 209.77 | 275.89 | 265.94 | 244.60 | 223.40 |
| Return on Equity | | | | | |
| Opening Equity | 1291.83 | 1490.40 | 1600.20 | 1600.20 | 1600.20 |
| Additions | 198.56 | 109.80 | 0.00 | 0.00 | 0.00 |



| Asset A | | | | | |
|------------------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Closing Equity | 1490.40 | 1600.20 | 1600.20 | 1600.20 | 1600.20 |
| Average Equity | 1391.11 | 1545.30 | 1600.20 | 1600.20 | 1600.20 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 218.24 | 304.51 | 315.33 | 315.33 | 315.33 |
| Interest on Working Capital | | | | | |
| O & M Expenses | 21.92 | 22.65 | 23.40 | 24.18 | 24.98 |
| Maintenance Spares | 39.46 | 40.77 | 42.13 | 43.53 | 44.97 |
| Receivables | 172.39 | 186.19 | 189.48 | 187.48 | 185.55 |
| Total Working Capital | 233.77 | 249.62 | 255.01 | 255.19 | 255.50 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 25.25 | 33.70 | 34.43 | 34.45 | 34.49 |
| Annual Transmission Charges | | | | | |
| Depreciation | 163.73 | 231.24 | 240.32 | 240.32 | 240.32 |
| Interest on Loan | 209.77 | 275.89 | 265.94 | 244.60 | 223.40 |
| Return on Equity | 218.24 | 304.51 | 315.33 | 315.33 | 315.33 |
| Interest on Working Capital | 25.25 | 33.70 | 34.43 | 34.45 | 34.49 |
| O & M Expenses | 210.47 | 271.82 | 280.85 | 290.18 | 299.79 |
| Total | 827.46 | 1117.15 | 1136.86 | 1124.87 | 1113.32 |

(₹ in lakh)

| Asset B | | | | | |
|--|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | | | | | |
| Opening Gross Block | 2238.58 | 2241.30 | 2420.61 | 2420.61 | 2420.61 |
| Additional Capitalisation | 2.72 | 179.31 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 2241.30 | 2420.61 | 2420.61 | 2420.61 | 2420.61 |
| Average Gross Block | 2239.94 | 2330.96 | 2420.61 | 2420.61 | 2420.61 |
| Rate of Depreciation (%) | 5.23 | 5.20 | 5.18 | 5.18 | 5.18 |
| Depreciable Value | 2015.95 | 2097.86 | 2178.55 | 2178.55 | 2178.55 |
| Balance useful life of the asset | 25 | 24 | 23 | 22 | 21 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |
| Remaining Depreciable Value | 2015.95 | 2004.85 | 1964.28 | 1838.87 | 1713.46 |
| Depreciation during the year | 93.01 | 121.26 | 125.41 | 125.41 | 125.41 |
| Cumulative depreciation (incl. of AAD) | 93.01 | 214.27 | 339.68 | 465.09 | 590.50 |
| Interest on Loan | | | | | |
| Gross Normative Loan | 1567.01 | 1568.91 | 1694.43 | 1694.43 | 1694.43 |
| Cumulative Repayments upto Previous Year | 0.00 | 93.01 | 214.27 | 339.68 | 465.09 |
| Net Loan-Opening | 1567.01 | 1475.90 | 1480.16 | 1354.75 | 1229.33 |



| Asset B | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Additions | 1.91 | 125.52 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 93.01 | 121.26 | 125.41 | 125.41 | 125.41 |
| Net Loan-Closing | 1475.90 | 1480.16 | 1354.75 | 1229.33 | 1103.92 |
| Average Loan | 1521.45 | 1478.03 | 1417.45 | 1292.04 | 1166.63 |
| Weighted Average Rate of Interest on Loan (%) | 9.2674 | 9.2795 | 9.2907 | 9.3032 | 9.3179 |
| Interest on Loan | 112.03 | 137.15 | 131.69 | 120.20 | 108.70 |
| Return on Equity | | | | | |
| Opening Equity | 671.57 | 672.39 | 726.18 | 726.18 | 726.18 |
| Additions | 0.81 | 53.79 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 672.39 | 726.18 | 726.18 | 726.18 | 726.18 |
| Average Equity | 671.98 | 699.29 | 726.18 | 726.18 | 726.18 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 104.70 | 137.80 | 143.10 | 143.10 | 143.10 |
| Interest on Working Capital | | | | | |
| O & M Expenses | 15.57 | 16.09 | 16.62 | 17.17 | 17.74 |
| Maintenance Spares | 28.04 | 28.97 | 29.93 | 30.92 | 31.95 |
| Receivables | 99.35 | 101.52 | 103.33 | 102.53 | 101.78 |
| Total Working Capital | 142.96 | 146.58 | 149.89 | 150.63 | 151.47 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 15.33 | 19.79 | 20.23 | 20.34 | 20.45 |
| Annual Transmission Charges | | | | | |
| Depreciation | 93.01 | 121.26 | 125.41 | 125.41 | 125.41 |
| Interest on Loan | 112.03 | 137.15 | 131.69 | 120.20 | 108.70 |
| Return on Equity | 104.70 | 137.80 | 143.10 | 143.10 | 143.10 |
| Interest on Working Capital | 15.33 | 19.79 | 20.23 | 20.34 | 20.45 |
| O & M Expenses | 148.52 | 193.13 | 199.55 | 206.16 | 213.01 |
| Total | 473.59 | 609.13 | 619.98 | 615.20 | 610.67 |

(₹ in lakh)

| Asset C | | | | | |
|---------------------------|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | | | | | |
| Opening Gross Block | 1850.44 | 1877.05 | 1969.68 | 1969.68 | 1969.68 |
| Additional Capitalisation | 26.61 | 92.63 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 1877.05 | 1969.68 | 1969.68 | 1969.68 | 1969.68 |
| Average Gross Block | 1863.75 | 1923.37 | 1969.68 | 1969.68 | 1969.68 |
| Rate of Depreciation (%) | 5.21 | 5.19 | 5.16 | 5.16 | 5.16 |



| Asset C | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciable Value | 1677.37 | 1731.03 | 1772.72 | 1772.72 | 1772.72 |
| Balance useful life of the asset | 25.00 | 24.00 | 23.00 | 22.00 | 21.00 |
| Elapsed life | 0.00 | 1.00 | 2.00 | 3.00 | 4.00 |
| Remaining Depreciable Value | 1677.37 | 1681.24 | 1623.18 | 1521.57 | 1419.96 |
| Depreciation during the year | 49.80 | 99.74 | 101.61 | 101.61 | 101.61 |
| Cumulative depreciation (incl. of AAD) | 49.80 | 149.54 | 251.15 | 352.75 | 454.36 |
| Interest on Loan | | | | | |
| Gross Normative Loan | 1294.32 | 1306.57 | 1371.42 | 1371.42 | 1371.42 |
| Cumulative Repayments upto Previous Year | 0.00 | 49.80 | 149.54 | 251.15 | 352.75 |
| Net Loan-Opening | 1294.32 | 1256.78 | 1221.88 | 1120.27 | 1018.66 |
| Additions | 12.25 | 64.84 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 49.80 | 99.74 | 101.61 | 101.61 | 101.61 |
| Net Loan-Closing | 1256.78 | 1221.88 | 1120.27 | 1018.66 | 917.06 |
| Average Loan | 1275.55 | 1239.33 | 1171.07 | 1069.47 | 967.86 |
| Weighted Average Rate of Interest on Loan (%) | 8.9869 | 8.9841 | 8.9831 | 8.9881 | 9.0019 |
| Interest on Loan | 58.73 | 111.34 | 105.20 | 96.13 | 87.13 |
| Return on Equity | | | | | |
| Opening Equity | 556.12 | 570.48 | 598.27 | 598.27 | 598.27 |
| Additions | 14.36 | 27.79 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 570.48 | 598.27 | 598.27 | 598.27 | 598.27 |
| Average Equity | 563.30 | 584.37 | 598.27 | 598.27 | 598.27 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 56.59 | 115.15 | 117.89 | 117.89 | 117.89 |
| Interest on Working Capital | | | | | |
| O & M Expenses | 8.54 | 8.82 | 9.12 | 9.42 | 9.73 |
| Maintenance Spares | 15.38 | 15.89 | 16.41 | 16.96 | 17.52 |
| Receivables | 72.98 | 74.25 | 74.61 | 73.70 | 72.82 |
| Total Working Capital | 96.90 | 98.96 | 100.14 | 100.08 | 100.08 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 6.70 | 13.36 | 13.52 | 13.51 | 13.51 |
| Annual Transmission Charges | | | | | |
| Depreciation | 49.80 | 99.74 | 101.61 | 101.61 | 101.61 |
| Interest on Loan | 58.73 | 111.34 | 105.20 | 96.13 | 87.13 |
| Return on Equity | 56.59 | 115.15 | 117.89 | 117.89 | 117.89 |
| Interest on Working Capital | 6.70 | 13.36 | 13.52 | 13.51 | 13.51 |
| O & M Expenses | 52.52 | 105.91 | 109.43 | 113.06 | 116.81 |
| Total | 224.34 | 445.51 | 447.64 | 442.19 | 436.94 |

(₹ in lakh)

| Asset D | | | | | |
|---|-------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | | | | | |
| Opening Gross Block | 1090.75 | 1100.19 | 1391.01 | 1391.01 | 1391.01 |
| Additional Capitalisation | 9.44 | 290.82 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 1100.19 | 1391.01 | 1391.01 | 1391.01 | 1391.01 |
| Average Gross Block | 1095.47 | 1245.60 | 1391.01 | 1391.01 | 1391.01 |
| Rate of Depreciation (%) | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Depreciable Value | 985.92 | 1121.04 | 1251.91 | 1251.91 | 1251.91 |
| Balance useful life of the asset | 25 | 24 | 23 | 22 | 21 |
| Elapsed life | 0 | 1 | 2 | 3 | 4 |
| Remaining Depreciable Value | 985.92 | 1109.15 | 1174.25 | 1100.81 | 1027.36 |
| Depreciation during the year | 11.89 | 65.77 | 73.45 | 73.45 | 73.45 |
| Cumulative depreciation (incl. of AAD) | 11.89 | 77.65 | 151.10 | 224.54 | 297.99 |
| Interest on Loan | | | | | |
| Gross Normative Loan | 763.52 | 770.13 | 973.71 | 973.71 | 973.71 |
| Cumulative Repayments upto Previous Year | 0.00 | 11.89 | 77.65 | 151.10 | 224.54 |
| Net Loan-Opening | 763.52 | 758.25 | 896.05 | 822.61 | 749.16 |
| Additions | 6.61 | 203.57 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 11.89 | 65.77 | 73.45 | 73.45 | 73.45 |
| Net Loan-Closing | 758.25 | 896.05 | 822.61 | 749.16 | 675.72 |
| Average Loan | 760.88 | 827.15 | 859.33 | 785.89 | 712.44 |
| Weighted Average Rate of Interest on Loan (%) | 8.1989 | 8.1826 | 8.1400 | 8.0745 | 7.9998 |
| Interest on Loan | 12.82 | 67.68 | 69.95 | 63.46 | 56.99 |
| Return on Equity | | | | | |
| Opening Equity | 327.22 | 330.06 | 417.30 | 417.30 | 417.30 |
| Additions | 2.83 | 87.25 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 330.06 | 417.30 | 417.30 | 417.30 | 417.30 |
| Average Equity | 328.64 | 373.68 | 417.30 | 417.30 | 417.30 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 13.24 | 73.64 | 82.23 | 82.23 | 82.23 |
| Interest on Working Capital | | | | | |
| O & M Expenses | 7.03 | 7.27 | 7.51 | 7.76 | 8.01 |
| Maintenance Spares | 12.66 | 13.08 | 13.52 | 13.97 | 14.43 |
| Receivables | 46.33 | 50.65 | 54.32 | 53.74 | 53.18 |
| Total Working Capital | 66.03 | 71.00 | 75.34 | 75.46 | 75.62 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 1.83 | 9.58 | 10.17 | 10.19 | 10.21 |
| Annual Transmission Charges | | | | | |



| Asset D | | | | | |
|-----------------------------|-----------------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 (pro-rata) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 11.89 | 65.77 | 73.45 | 73.45 | 73.45 |
| Interest on Loan | 12.82 | 67.68 | 69.95 | 63.46 | 56.99 |
| Return on Equity | 13.24 | 73.64 | 82.23 | 82.23 | 82.23 |
| Interest on Working Capital | 1.83 | 9.58 | 10.17 | 10.19 | 10.21 |
| O & M Expenses | 17.35 | 87.22 | 90.12 | 93.10 | 96.20 |
| Total | 57.12 | 303.89 | 325.92 | 322.42 | 319.08 |

(₹ in lakh)

| Asset E | | | | | |
|---|---------|---------|---------|---------|---------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | | | | | |
| Opening Gross Block | 331.99 | 446.69 | 446.69 | 446.69 | 446.69 |
| Additional Capitalisation | 114.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 446.69 | 446.69 | 446.69 | 446.69 | 446.69 |
| Average Gross Block | 389.34 | 446.69 | 446.69 | 446.69 | 446.69 |
| Rate of Depreciation (%) | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Depreciable Value | 350.41 | 402.02 | 402.02 | 402.02 | 402.02 |
| Balance useful life of the asset | 25.00 | 24.00 | 23.00 | 22.00 | 21.00 |
| Elapsed life | 0.00 | 1.00 | 2.00 | 3.00 | 4.00 |
| Remaining Depreciable Value | 350.41 | 381.46 | 357.88 | 334.29 | 310.71 |
| Depreciation during the year | 20.56 | 23.59 | 23.59 | 23.59 | 23.59 |
| Cumulative depreciation (incl. of AAD) | 20.56 | 44.14 | 67.73 | 91.31 | 114.90 |
| Interest on Loan | | | | | |
| Gross Normative Loan | 232.39 | 312.68 | 312.68 | 312.68 | 312.68 |
| Cumulative Repayments upto Previous Year | 0.00 | 20.56 | 44.14 | 67.73 | 91.31 |
| Net Loan-Opening | 232.39 | 292.13 | 268.54 | 244.96 | 221.37 |
| Additions | 80.29 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 20.56 | 23.59 | 23.59 | 23.59 | 23.59 |
| Net Loan-Closing | 292.13 | 268.54 | 244.96 | 221.37 | 197.78 |
| Average Loan | 262.26 | 280.33 | 256.75 | 233.16 | 209.58 |
| Weighted Average Rate of Interest on Loan (%) | 8.4936 | 8.4396 | 8.4038 | 8.3609 | 8.3130 |
| Interest on Loan | 22.28 | 23.66 | 21.58 | 19.49 | 17.42 |
| Return on Equity | | | | | |
| Opening Equity | 99.60 | 134.01 | 134.01 | 134.01 | 134.01 |
| Additions | 34.41 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 134.01 | 134.01 | 134.01 | 134.01 | 134.01 |
| Average Equity | 116.80 | 134.01 | 134.01 | 134.01 | 134.01 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 20.961 | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.610 | 19.705 | 19.705 | 19.705 | 19.705 |



| Asset E | | | | | |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Return on Equity | 22.91 | 26.41 | 26.41 | 26.41 | 26.41 |
| Interest on Working Capital | | | | | |
| O & M Expenses | 5.03 | 5.19 | 5.36 | 5.54 | 5.73 |
| Maintenance Spares | 9.05 | 9.35 | 9.66 | 9.98 | 10.31 |
| Receivables | 21.81 | 23.51 | 23.52 | 23.55 | 23.58 |
| Total Working Capital | 35.88 | 38.05 | 38.54 | 39.06 | 39.61 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 4.84 | 5.14 | 5.20 | 5.27 | 5.35 |
| Annual Transmission Charges | | | | | |
| Depreciation | 20.56 | 23.59 | 23.59 | 23.59 | 23.59 |
| Interest on Loan | 22.28 | 23.66 | 21.58 | 19.49 | 17.42 |
| Return on Equity | 22.91 | 26.41 | 26.41 | 26.41 | 26.41 |
| Interest on Working Capital | 4.84 | 5.14 | 5.20 | 5.27 | 5.35 |
| O & M Expenses | 60.30 | 62.30 | 64.37 | 66.51 | 68.71 |
| Total | 130.88 | 141.09 | 141.14 | 141.27 | 141.47 |

(₹ in lakh)

| Asset F | | | | |
|---|----------------|----------------|----------------|----------------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | | | | |
| Opening Gross Block | 823.45 | 985.05 | 985.05 | 985.05 |
| Additional Capitalisation | 161.60 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 985.05 | 985.05 | 985.05 | 985.05 |
| Average Gross Block | 904.25 | 985.05 | 985.05 | 985.05 |
| Rate of Depreciation (%) | 5.18 | 5.14 | 5.14 | 5.14 |
| Depreciable Value | 813.83 | 886.55 | 886.55 | 886.55 |
| Balance useful life of the asset | 25.00 | 24.00 | 23.00 | 22.00 |
| Elapsed life | 0.00 | 1.00 | 2.00 | 3.00 |
| Remaining Depreciable Value | 72.72 | 98.61 | 48.01 | -2.59 |
| Depreciation during the year | 46.83 | 50.60 | 50.60 | 50.60 |
| Cumulative depreciation (incl. of AAD) | 46.83 | 97.43 | 148.03 | 198.63 |
| Interest on Loan | | | | |
| Gross Normative Loan | 576.42 | 689.54 | 689.54 | 689.54 |
| Cumulative Repayments upto Previous Year | 0.00 | 46.83 | 97.43 | 148.03 |
| Net Loan-Opening | 576.42 | 642.70 | 592.10 | 541.51 |
| Additions | 113.12 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 46.83 | 50.60 | 50.60 | 50.60 |
| Net Loan-Closing | 642.70 | 592.10 | 541.51 | 490.91 |
| Average Loan | 609.56 | 617.40 | 566.80 | 516.21 |
| Weighted Average Rate of Interest on Loan (%) | 8.5920 | 8.5864 | 8.5806 | 8.5745 |
| Interest on Loan | 52.37 | 53.01 | 48.64 | 44.26 |



| Asset F | | | | |
|------------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Return on Equity | | | | |
| Opening Equity | 247.04 | 295.52 | 295.52 | 295.52 |
| Additions | 48.48 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 295.52 | 295.52 | 295.52 | 295.52 |
| Average Equity | 271.28 | 295.52 | 295.52 | 295.52 |
| Return on Equity (Base Rate) (%) | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (%) | 21.342 | 21.342 | 21.342 | 21.342 |
| Rate of Return on Equity (%) | 19.705 | 19.705 | 19.705 | 19.705 |
| Return on Equity | 53.46 | 58.23 | 58.23 | 58.23 |
| Interest on Working Capital | | | | |
| O & M Expenses | 5.19 | 5.36 | 5.54 | 5.72 |
| Maintenance Spares | 9.35 | 9.66 | 9.98 | 10.31 |
| Receivables | 36.99 | 38.92 | 38.55 | 38.19 |
| Total Working Capital | 51.52 | 53.93 | 54.06 | 54.22 |
| Rate of Interest (%) | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of working capital | 6.96 | 7.28 | 7.30 | 7.32 |
| Annual Transmission Charges | | | | |
| Depreciation | 46.83 | 50.60 | 50.60 | 50.60 |
| Interest on Loan | 52.37 | 53.01 | 48.64 | 44.26 |
| Return on Equity | 53.46 | 58.23 | 58.23 | 58.23 |
| Interest on Working Capital | 6.96 | 7.28 | 7.30 | 7.32 |
| O & M Expenses | 62.30 | 64.37 | 66.51 | 68.71 |
| Total | 221.92 | 233.50 | 231.28 | 229.12 |

Filing Fee and the Publication Expenses

67. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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 Regulation 52 (1) of the 2014 Tariff Regulations.

Licence Fee & RLDC Fees and Charges

68. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 52 (2) (b) of the 2014 Tariff Regulations for 2014-19 tariff period. The

petitioner shall also be entitled for recovery of RLDC fee & charges in accordance with Regulations 52 (2) (a) of the 2014 Tariff Regulations for 2014-19 tariff period.

Service Tax

69. The petitioner has prayed for reimbursement of service tax if it is subjected to such tax in future. We are of the view that the petitioner's prayer is premature.

Foreign Exchange Rate Variation

70. The petitioner has sought recovery of FERV on foreign loans deployed under clause 50 of 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission customers / DICs, as the case may be, in accordance with Regulation 51(1) of the 2014 Tariff Regulations.

Sharing of Transmission Charges

71. The transmission charges for the Asset D and Asset E shall be borne by the beneficiaries or the long term transmission customers / DICs, as the case may be till the commissioning of the downstream system. Once the downstream system is commissioned 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.

72. This order disposes of Petition No. 33/TT/2015.

Sd/-

(Dr. M.K. Iyer)
Member

Sd/-

(A.S. Bakshi)
Member



ASSET A: DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total |
|-------------------------------------|-------------------|-------------------------|------------------------------------|----------------|
| BOND XXXIII-Loan 1- | 8.64 | 100.00 | 0.00 | 100.00 |
| BOND XXXII-Loan 2- | 8.84 | 390.00 | 0.00 | 390.00 |
| BOND-XXXIV-Loan 3- | 8.84 | 150.00 | 0.00 | 150.00 |
| BOND-XXXV-Loan 4- | 9.64 | 100.00 | 0.00 | 100.00 |
| BOND XXXVII-Loan 5- | 9.25 | 50.00 | 0.00 | 50.00 |
| SBI (21.03.2012)-Loan 6- | 10.25 | 488.59 | 0.00 | 488.59 |
| BOND XL-Loan 7- | 9.30 | 400.63 | 0.00 | 400.63 |
| FC - BOND (17.01.2013)-Loan 8-59.85 | 4.10 | 393.81 | 0.00 | 393.81 |
| BOND - XLIII-Loan 9- | 7.93 | 900.00 | 0.00 | 900.00 |
| BOND XLVI -ADDCAP FOR 2014-2015 1- | 9.30 | 0.00 | 146.21 | 146.21 |
| BOND XLVI -ADDCAP FOR 2014-2015 2- | 9.30 | 0.00 | 2.54 | 2.54 |
| BOND XLVI -Loan 10- | 9.30 | 61.47 | 0.00 | 61.47 |
| Bond XLVIII-ADDCAP FOR 2014-2015 2- | 8.20 | 0.00 | 185.07 | 185.07 |
| BOND XLIX-ADDCAP FOR 2014-2015 4- | 8.15 | 0.00 | 132.03 | 132.03 |
| Total | | 3034.50 | 465.85 | 3500.35 |

ASSET A: WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|----------------|----------------|
| Gross Opening Loan | 3034.50 | 3500.35 | 3500.35 | 3500.35 | 3500.35 |
| Cumulative Repayments of Loans upto Previous Year | 32.50 | 85.83 | 151.66 | 295.30 | 513.94 |
| Net Loans Opening | 3002.00 | 3414.52 | 3348.69 | 3205.05 | 2986.41 |
| Add: Draw(s) during the Year | 465.85 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Repayments of Loan during the year | 53.33 | 65.83 | 143.64 | 218.64 | 218.64 |
| Net Closing Loan | 3414.52 | 3348.69 | 3205.05 | 2986.41 | 2767.77 |
| Average Net Loan | 3208.26 | 3381.61 | 3276.87 | 3095.73 | 2877.09 |
| Rate of Interest on Loan (%) | 8.2872% | 8.2940% | 8.2626% | 8.2124% | 8.1590% |
| Interest on Loan | 265.88 | 280.47 | 270.75 | 254.23 | 234.74 |

ASSET B: DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total |
|---------------------------------------|-------------------|-------------------------|------------------------------------|----------------|
| BOND XXXII-Loan 1- | 8.84 | 10.00 | 0.00 | 10.00 |
| BOND-XXXIV-Loan 3- | 8.84 | 500.00 | 0.00 | 500.00 |
| BOND-XXXV-Loan 9- | 9.64 | 80.00 | 0.00 | 80.00 |
| BOND XXXVI-Loan 4- | 9.35 | 30.00 | 0.00 | 30.00 |
| BOND XXXVII-Loan 5- | 9.25 | 100.00 | 0.00 | 100.00 |
| BOND XXXVIII-Loan 10- | 9.25 | 90.00 | 0.00 | 90.00 |
| BOND XXXIX-Loan 6- | 9.40 | 80.00 | 0.00 | 80.00 |
| BOND XL-Loan 7- | 9.30 | 534.50 | 0.00 | 534.50 |
| SBI (2014-15)-ADDCAP FOR 2014-2015 2- | 10.25 | 0.00 | 4.85 | 4.85 |
| SBI (2014-15)-Loan 11- | 10.25 | 152.83 | 0.00 | 152.83 |
| BOND XLIX-ADDCAP FOR 2014-2015 1.- | 8.15 | 0.00 | 1.90 | 1.90 |
| Total | | 1577.33 | 6.75 | 1584.08 |

ASSET B: WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|----------------|----------------|
| Gross Opening Loan | 1577.33 | 1584.08 | 1584.08 | 1584.08 | 1584.08 |
| Cumulative Repayments of Loans upto Previous Year | 0.83 | 43.33 | 100.83 | 204.87 | 308.91 |
| Net Loans Opening | 1576.50 | 1540.75 | 1483.25 | 1379.21 | 1275.17 |
| Add: Draw(s) during the Year | 6.75 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Repayments of Loan during the year | 42.50 | 57.50 | 104.04 | 104.04 | 104.04 |
| Net Closing Loan | 1540.75 | 1483.25 | 1379.21 | 1275.17 | 1171.13 |
| Average Net Loan | 1558.63 | 1512.00 | 1431.23 | 1327.19 | 1223.15 |
| Rate of Interest on Loan (%) | 9.2674% | 9.2795% | 9.2907% | 9.3032% | 9.3179% |
| Interest on Loan | 144.44 | 140.31 | 132.97 | 123.47 | 113.97 |



ASSET C: DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total |
|------------------------------------|-------------------|-------------------------|------------------------------------|----------------|
| BOND XXXIII-Loan 2- | 8.64 | 20.00 | 0.00 | 20.00 |
| BOND XXXII-Loan 1- | 8.84 | 230.00 | 0.00 | 230.00 |
| BOND-XXXIV-Loan 3- | 8.84 | 20.00 | 0.00 | 20.00 |
| BOND-XXXV-Loan 4- | 9.64 | 30.00 | 0.00 | 30.00 |
| BOND XXXVI-Loan 5- | 9.35 | 20.00 | 0.00 | 20.00 |
| BOND XXXVII-Loan 6- | 9.25 | 60.00 | 0.00 | 60.00 |
| BOND XXXVIII-Loan 7- | 9.25 | 60.00 | 0.00 | 60.00 |
| BOND XXXIX-Loan 8- | 9.40 | 50.00 | 0.00 | 50.00 |
| BOND XL-Loan 9- | 9.30 | 125.00 | 0.00 | 125.00 |
| BOND - XLIII-Loan 10- | 7.93 | 210.00 | 0.00 | 210.00 |
| BOND XLVI -ADDCAP FOR 2014-2015 2- | 9.30 | 0.00 | 14.90 | 14.90 |
| BOND XLVI-Loan 11- | 9.30 | 472.62 | 0.00 | 472.62 |
| BOND XLIX-ADDCAP FOR 2014-2015 1- | 8.15 | 0.00 | 18.63 | 18.63 |
| Total | | 1297.62 | 33.53 | 1331.15 |

ASSET C: WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|----------------|----------------|
| Gross Opening Loan | 1297.62 | 1331.15 | 1331.15 | 1331.15 | 1331.15 |
| Cumulative Repayments of Loans upto Previous Year | 20.84 | 41.68 | 71.69 | 113.45 | 172.71 |
| Net Loans Opening | 1276.78 | 1289.47 | 1259.46 | 1217.70 | 1158.44 |
| Add: Draw(s) during the Year | 33.53 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Repayments of Loan during the year | 20.84 | 30.01 | 41.76 | 59.26 | 59.26 |
| Net Closing Loan | 1289.47 | 1259.46 | 1217.70 | 1158.44 | 1099.18 |
| Average Net Loan | 1283.13 | 1274.47 | 1238.58 | 1188.07 | 1128.81 |
| Rate of Interest on Loan (%) | 8.9869% | 8.9841% | 8.9831% | 8.9881% | 9.0019% |
| Interest on Loan | 115.31 | 114.50 | 111.26 | 106.79 | 101.61 |



ASSET D: DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total |
|---|-------------------|-------------------------|------------------------------------|---------------|
| BOND XXXIII-Loan 2- | 8.64 | 10.00 | 0.00 | 10.00 |
| BOND XXXII Loan 1- | 8.84 | 130.00 | 0.00 | 130.00 |
| BOND-XXXIV-Loan 3- | 8.84 | 155.00 | 0.00 | 155.00 |
| BOND-XXXV-Loan 4- | 9.64 | 20.00 | 0.00 | 20.00 |
| BOND XXXVII-Loan 5- | 9.25 | 21.93 | 0.00 | 21.93 |
| SBI (21.03.2012)-Loan 9- | 10.25 | 50.00 | 0.00 | 50.00 |
| BOND XL-Loan 6- | 9.30 | 180.00 | 0.00 | 180.00 |
| FC - BOND (17.01.2013)-Loan 7-62.72 | 4.10 | 125.44 | 0.00 | 125.44 |
| BOND - XLIII-Loan 8- | 7.93 | 25.00 | 0.00 | 25.00 |
| Bond XLVIII-ADDCAP FOR 2014-2015 Loan 11- | 8.20 | 0.00 | 6.60 | 6.60 |
| Bond XLVIII-Loan 10- | 8.20 | 150.04 | 0.00 | 150.04 |
| Total | | 867.41 | 6.60 | 874.01 |

ASSET D: WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------------|---------------|---------------|---------------|---------------|
| Gross Opening Loan | 867.41 | 874.01 | 874.01 | 874.01 | 874.01 |
| Cumulative Repayments of Loans upto Previous Year | 24.58 | 35.41 | 63.49 | 111.12 | 160.83 |
| Net Loans Opening | 842.83 | 838.60 | 810.52 | 762.89 | 713.18 |
| Add: Draw(s) during the Year | 6.60 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Repayments of Loan during the year | 10.83 | 28.08 | 47.63 | 49.71 | 49.71 |
| Net Closing Loan | 838.60 | 810.52 | 762.89 | 713.18 | 663.47 |
| Average Net Loan | 840.72 | 824.56 | 786.71 | 738.04 | 688.33 |
| Rate of Interest on Loan (%) | 8.1989% | 8.1826% | 8.1400% | 8.0745% | 7.9998% |
| Interest on Loan | 68.93 | 67.47 | 64.04 | 59.59 | 55.06 |



ASSET E: DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total |
|---|-------------------|-------------------------|------------------------------------|---------------|
| BOND-XXXIV-loan 1- | 8.84 | 80.00 | 0.00 | 80.00 |
| BOND-XXXV-loan 2- | 9.64 | 35.00 | 0.00 | 35.00 |
| BOND XXXVII-loan 3- | 9.25 | 65.00 | 0.00 | 65.00 |
| BOND XXXVIII-loan 4- | 9.25 | 23.00 | 0.00 | 23.00 |
| SBI (21.03.2012)-ADDCAP FOR 2014-2015 Loan 8- | 10.25 | 0.00 | 5.50 | 5.50 |
| SBI (21.03.2012)-Loan 7- | 10.25 | 0.07 | 0.00 | 0.07 |
| BOND XL-loan 5- | 9.30 | 15.00 | 0.00 | 15.00 |
| FC - BOND (17.01.2013)-loan 6-60.61 | 4.10 | 30.31 | 0.00 | 30.31 |
| BOND XLIX-ADDCAP FOR 2014-2015 Loan 9- | 8.15 | 0.00 | 99.72 | 99.72 |
| Total | | 248.38 | 105.22 | 353.60 |

ASSET E: WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------------|---------------|---------------|---------------|---------------|
| Gross Opening Loan | 248.38 | 353.60 | 353.60 | 353.60 | 353.60 |
| Cumulative Repayments of Loans upto Previous Year | 0.00 | 6.67 | 21.68 | 38.45 | 55.22 |
| Net Loans Opening | 248.38 | 346.93 | 331.92 | 315.15 | 298.38 |
| Add: Draw(s) during the Year | 105.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Repayments of Loan during the year | 6.67 | 15.01 | 16.77 | 16.77 | 16.77 |
| Net Closing Loan | 346.93 | 331.92 | 315.15 | 298.38 | 281.61 |
| Average Net Loan | 297.66 | 339.43 | 323.54 | 306.77 | 290.00 |
| Rate of Interest on Loan (%) | 8.4936% | 8.4396% | 8.4038% | 8.3609% | 8.3130% |
| Interest on Loan | 25.28 | 28.65 | 27.19 | 25.65 | 24.11 |



ASSET F: DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

| Particulars | Interest Rate (%) | Loan deployed as on COD | Additions during the tariff period | Total |
|-------------------------------------|-------------------|-------------------------|------------------------------------|---------------|
| BOND XXXII-Loan 1- | 8.84 | 150.00 | 0.00 | 150.00 |
| FC - BOND (17.01.2013)-Loan 2-63.19 | 4.10 | 126.38 | 0.00 | 126.38 |
| SBI (2014-15)-Loan 3- | 10.25 | 324.64 | 0.00 | 324.64 |
| Total | | 601.02 | 0.00 | 601.02 |

ASSET F: WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------------|---------------|---------------|---------------|
| Gross Opening Loan | 601.02 | 601.02 | 601.02 | 601.02 |
| Cumulative Repayments of Loans upto Previous Year | 25.00 | 37.50 | 50.00 | 62.50 |
| Net Loans Opening | 576.02 | 563.52 | 551.02 | 538.52 |
| Add: Draw(s) during the Year | 0.00 | 0.00 | 0.00 | 0.00 |
| Less: Repayments of Loan during the year | 12.50 | 12.50 | 12.50 | 12.50 |
| Net Closing Loan | 563.52 | 551.02 | 538.52 | 526.02 |
| Average Net Loan | 569.77 | 557.27 | 544.77 | 532.27 |
| Rate of Interest on Loan (%) | 8.5920 | 8.5864 | 8.5806 | 8.5745 |
| Interest on Loan | 48.95 | 47.85 | 46.74 | 45.64 |

