

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO. 242/TT/2014**

**Coram:**

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

**Date of Hearing: 06.04.2016  
Date of Order : 28.04.2016**

**In the matter of:**

Determination of transmission tariff of (A) 1x125 MVAR Bus Reactor at 400 kV Damoh Sub-station (B) 1x125 MVAR Bus Reactor at 400 kV Bachau Sub-station (C) 1x125 MVAR Bus Reactor at 400 kV Pirana Sub-station (D) 1x125 MVAR Bus Reactor-1 at 400 kV Itarsi Sub-station (E) 1x125 MVAR Bus Reactor-2 at 400 kV Itarsi Sub-station, (F) 1x125 MVAR Bus Reactor at 400 kV Gwalior Sub-station under installation of Reactors (Part-II) in Western Region for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the Matter of:**

Power Grid Corporation of India Ltd,  
SAUDAMINI, Plot No. 2,  
Sector-29, Gurgaon-122001 (Haryana)

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Management Company Ltd.  
Shakti Bhawan, Rampur  
Jabalpur – 482008
2. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad' 4th Floor  
Andheri (East), Mumb-i - 400 052
3. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,  
Race Course Road  
Vadoda-a - 390 007
4. Electricity Department Govt. Of Goa



Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, G-a - 403 001

5. Electricity Department  
Administration of Daman & Diu  
Daman - 396 210
6. Electricity Department  
Administration Of Dadra Nagar Haveli  
U.T., Silvassa - 396 230
7. Chhattisgarh State Electricity Board  
P.O.Sunder Nagar, Dangania, Raipur  
Chhatisgarh-492013
8. Madhya Pradesh Audyogik Kendra  
Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road,  
Indore -452008

....Respondent(s)

The following were present:

For Petitioner:       Shri S. S. Raju, PGCIL  
                              Shri M. M. Mondal, PGCIL  
                              Shri Rakesh Prasad, PGCIL  
                              Shri Subhash C Taneja, PGCIL  
                              Shri S. K. Venkatesan, PGCIL  
                              Shri Pankaj Sharma, PGCIL  
                              Shri A. M. Pavgi, PGCIL  
                              Shri Mohd. Mohsin, PGCIL  
                              Shri Piyush Awasthi, PGCIL

For Respondents:   None

### **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 Asset-A: 1x125 MVAR Bus Reactor at 400 kV Damoh Sub-station, Asset-B:



1x125 MVAR Bus Reactor at 400 kV Bachau Sub-station, Asset-C:1x125 MVAR Bus Reactor at 400 kV Pirana Sub-station, Asset-D: 1x125 MVAR Bus Reactor-1 at 400 kV Itarsi Sub-station, Asset-E: 1x125 MVAR Bus Reactor-2 at 400 kV Itarsi Sub-station, Asset-F: 1x125 MVAR Bus Reactor at 400 kV Gwalior Sub-station under installation of Reactors (Part-II) In Western Region (hereinafter referred to as "the transmission asset")

2. The petitioner has been entrusted with the implementation of "Installation of Reactors (Part-II) In Western Region". The scope of work covered under "Supplementary Transmission System under the project is as follows:-

Sub-station:

a) 400 kV Damoh (POWERGRID) Sub-station (Extension)

400 kV

- Bus reactor Bay : 1
- 400 420kV 125 MVAR bus reactor : 400 kV Bachau (POWERGRID) Sub-station (Extension)

400 kV

- Bus reactor Bay : 1
- 401 420 KV, 125 MVAR bus reactor : 400 kV Pirana (POWERGRID) Sub-station (Extension)

400 kV

- Bus reactor Bay : 1
- 420 KV, 125 MVAR bus reactor : 1

d) 400 kV Itarsi\* (POWERGRID) Sub-station (Extension)

400 kV

- 420 KV, 125 MVAR bus reactor : 2

\* To replace existing 2x50MVAR reactors at Itarsi Sub-station which shall be used as spares.

f) 400 kV Seoni (POWERGRID) Sub-station (Extension)

400 kV

- Bus reactor Bay : 1
- 420 KV, 125 MVAR bus reactor : 1

g) 400 kV Parli (POWERGRID) Sub-station (Extension)

400 kV

- Bus reactor Bay : 1



- 420 KV, 125 MVAR bus reactor : 1
- h) 400 kV Raipur (POWERGRID) Sub-station (Extension)

400 kV

- Bus reactor Bay : 1
- 420 kV, 125 MVAR bus reactor : 1
- 420kV, 63MVAR line reactor : 1

- i) 400 kV Gwalior\* (POWERGRID) Sub-station (Extension)

400 kV

- 420 kV, 125 MVAR bus reactor : 1

\* To replace existing 1x50 MVAR reactor at Gwalior Sub-station which shall be used as spare.

- j) 400kV Pune (POWERGRID) Sub-station (Extension)

- To convert existing 4x50 MVAR line reactor at Pune (PG) Sub-station into switchable line reactors.

3. The Investment Approval (IA) for the transmission project was accorded by the Board of Directors of POWERGRID vide Memorandum No. C/CP/WR-343 dated 5.4.2013 with an estimated cost of ₹9283 lakh including an IDC of ₹502 lakh based on February, 2013 price level. The Revised Cost Estimate (RCE) of the project was accorded by the Board of Directors of POWERGRID vide C/CP/RCE/Rectr. Part-II-WR dated 12.10.2015 for ₹10211 lakh including an IDC of ₹182 lakh based on April, 2015 price level.

4. As per the Investment Approval, the project was scheduled to be commissioned within 24 months from the date of Investment Approval. The date of Investment Approval is 5.4.2013 and accordingly the schedule date of completion of work is 5.4.2015.

5. The petitioner, vide affidavit dated 12.4.2016, has submitted the actual date of commercial operation of the assets covered in the instant petition. The date of commercial operation of the instant assets is as follows:-

Asset	Description	Actual COD
Asset-A	1x125 MVAR Bus Reactor at 400 kV Damoh Sub-station	2.10.2014
Asset-B	1x125 MVAR Bus Reactor at 400 kV Bachau Sub-station	3.12.2014
Asset-C	1x125 MVAR Bus Reactor at 400 kV Pirana Sub-station	4.10.2014
Asset-D	1x125 MVAR Bus Reactor-1 at 400 kV Itarsi Sub-station	7.8.2014
Asset-E	1x125 MVAR Bus Reactor-2 at 400 kV Itarsi Sub-station	15.10.2014
Asset-F	1x125 MVAR Bus Reactor at 400 kV Gwalior Sub-station	2.7.2014

6. The petitioner has submitted, vide affidavit dated 12.4.2016, letter declaring COD and trial operation certificate issued by RLDC in respect of commissioning of Assets- A, B, C, D, E and F.

7. The capital cost claimed by the petitioner, as certified vide Auditor's Certificate dated 21.7.2015 for Assets-A, B, C and E and dated 8.3.2016 for Assets-D and F along with the estimated additional capital expenditure during 2014-19 tariff period, is as below:-

(₹ in lakh)

Asset	Apportioned approved cost as per RCE	Exp. Up to COD	Add-cap during 2014-15	Add-cap during 2015-16	Add-cap during 2016-17	Total estimated expenditure
Asset-A	1026.88	464.84	219.21	256.77	84.36	1025.18
Asset-B	2044.46	910.91	314.28	688.72	96.11	2010.02
Asset-C	1046.39	453.81	174.35	301.38	71.64	1001.18
Asset-D	635.40	410.97	106.85	65.42	18.11	601.36
Asset-E	635.40	425.41	0.00	97.61	37.84	560.86
Asset-F	658.16	318.85	118.87	47.79	50.54	536.05



8. In response to query regarding the replaced 2x50 MVAR existing bus reactor at Itarsi Sub-station and usage of the same as spares, the petitioner, vide affidavit dated 12.4.2016, has submitted that the said 2x50 MVAR reactors were installed during 1998 under Vindhyachal Stage-I Additional Transmission System in Western Region and are covered in Petition No. 397/2014. The Commission has approved the true up tariff for 2009-14 and tariff for 2014-19 for the same vide order dated 11.1.2016. Further, the replacement of 2x50 MVAR reactors with 2x125 MVAR reactors was approved in the Investment Approval dated 5.4.2013.

9. The Commission observed that the use of replaced 2x50 MVAR bus reactors as spare reactors was agreed by the members in the 34<sup>th</sup> Standing Committee Meeting (SCM) held on 9.5.2012 and 20<sup>th</sup> WRPC meeting held on 18.5.2012. The petitioner has further submitted that no additional bay is constructed and thus no additional O&M has been claimed in the instant petition. The petitioner has prayed that the tariff approved in respect of spare 2x50 MVAR reactors be continued and tariff may be approved for the instant reactors.

10. 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 17.12.2014.

11. The petition was served on 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. No reply has been made by the respondents. The hearing in this matter was held on 6.4.2016. The petitioner was directed to

submit additional information in respect of the instant transmission assets. In response, the petitioner has filed the rejoinder vide affidavit dated 12.4.2016.

12. 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.

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

**Asset-A:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	15.02	42.89	51.90	54.13	54.13
Interest on Loan	19.60	53.55	60.80	58.44	53.02
Return on Equity	16.74	48.02	58.11	60.60	60.60
Interest on Working Capital	3.50	8.14	8.91	9.13	9.18
O & M Expenses	41.98	87.22	90.12	93.11	96.20
<b>Total</b>	<b>96.84</b>	<b>239.82</b>	<b>269.84</b>	<b>275.41</b>	<b>273.13</b>

**Asset-B:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	18.24	82.62	103.59	106.13	106.13
Interest on Loan	23.27	99.84	117.64	110.72	100.53
Return on Equity	20.33	92.51	115.98	118.82	118.82
Interest on Working Capital	2.52	9.77	11.32	11.40	11.29
O & M Expenses	19.78	62.30	64.37	66.51	68.71
<b>Total</b>	<b>84.14</b>	<b>347.04</b>	<b>412.90</b>	<b>413.58</b>	<b>405.48</b>

**Asset-C:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
-------------	-----------------------	---------	---------	---------	---------

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	14.04	41.11	50.97	52.86	52.86
Interest on Loan	17.33	47.53	55.36	52.77	47.77
Return on Equity	15.64	46.03	57.07	59.18	59.18
Interest on Working Capital	2.72	6.54	7.32	7.47	7.48
O & M Expenses	29.66	62.30	64.37	66.51	68.71
<b>Total</b>	<b>79.39</b>	<b>203.51</b>	<b>235.09</b>	<b>238.79</b>	<b>236.00</b>

**Asset-D:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	15.94	29.07	31.27	31.75	31.75
Interest on Loan	19.00	32.36	32.27	29.96	27.05
Return on Equity	17.75	32.54	35.01	35.55	35.55
Interest on Working Capital	1.21	2.16	2.27	2.24	2.17
O & M Expenses	-	-	-	-	-
<b>Total</b>	<b>53.90</b>	<b>96.13</b>	<b>100.82</b>	<b>99.50</b>	<b>96.52</b>

**Asset-E:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	10.31	24.98	28.61	29.61	29.61
Interest on Loan	12.79	29.34	31.36	29.80	26.94
Return on Equity	11.49	27.97	32.04	33.16	33.16
Interest on Working Capital	0.80	1.89	2.12	2.13	2.06
O & M Expenses	-	-	-	-	-
<b>Total</b>	<b>35.39</b>	<b>84.18</b>	<b>94.13</b>	<b>94.70</b>	<b>91.77</b>

**Asset-F:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	14.86	24.37	26.97	28.30	28.30
Interest on Loan	18.32	27.76	28.55	27.54	24.80
Return on Equity	16.56	27.29	30.19	31.69	31.69
Interest on Working Capital	1.14	1.83	1.97	2.01	1.95
O & M Expenses	-	-	-	-	-
<b>Total</b>	<b>50.88</b>	<b>81.25</b>	<b>87.68</b>	<b>89.54</b>	<b>86.74</b>





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

**Asset-A:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	7.03	7.27	7.51	7.76	8.02
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	32.45	39.97	44.97	45.90	45.52
Total working capital	<b>52.14</b>	<b>60.32</b>	<b>66.00</b>	<b>67.63</b>	<b>67.97</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	3.50	8.14	8.91	9.13	9.18

**Asset-B:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	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	42.76	57.84	68.82	68.93	67.58
Total working capital	<b>56.84</b>	<b>72.38</b>	<b>83.84</b>	<b>84.45</b>	<b>83.61</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	2.52	9.77	11.32	11.40	11.29

**Asset-C:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	5.02	5.19	5.36	5.54	5.73
Maintenance Spares	9.04	9.35	9.66	9.98	10.31
Receivables	26.90	33.92	39.18	39.80	39.33
Total working capital	<b>40.96</b>	<b>48.46</b>	<b>54.20</b>	<b>55.32</b>	<b>55.37</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	2.72	6.54	7.32	7.47	7.48

**Asset-D:**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	13.81	16.02	16.80	16.58	16.09
Total working capital	<b>13.81</b>	<b>16.02</b>	<b>16.80</b>	<b>16.58</b>	<b>16.09</b>



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	1.21	2.16	2.27	2.24	2.17

#### Asset-E:

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	12.76	14.02	15.67	15.77	15.27
Total working capital	<b>12.76</b>	<b>14.02</b>	<b>15.67</b>	<b>15.77</b>	<b>15.27</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	0.80	1.89	2.12	2.13	2.06

#### Asset-F:

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	11.35	13.54	14.61	14.92	14.46
Total working capital	<b>11.35</b>	<b>13.54</b>	<b>14.61</b>	<b>14.92</b>	<b>14.46</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	1.14	1.83	1.97	2.01	1.95

#### Date of Commercial Operation (COD)

15. The petitioner has claimed the date of the commercial operation for the subject assets as under:

Asset	Description	Actual COD
Asset-A	1x125 MVAR Bus Reactor at 400 kV Damoh S/S	2.10.2014
Asset-B	1x125 MVAR Bus Reactor at 400 kV Bachau S/S	3.12.2014
Asset-C	1x125 MVAR Bus Reactor at 400 kV Pirana S/S	4.10.2014
Asset-D	1x125 MVAR Bus Reactor-1 at 400 kV Itarsi S/S	7.8.2014
Asset-E	1x125 MVAR Bus Reactor-2 at 400 kV Itarsi S/S	15.10.2014
Asset-F	1x125 MVAR Bus Reactor at 400 kV Gwalior S/S	2.7.2014

16. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

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

xxx

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

xxx  
xxx”

17. The petitioner, vide affidavit dated 12.4.2016, has submitted the RLDC certificates in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation for the instant transmission asset. Accordingly, the commercial operation dates of Assets-A, B, C, D, E and F are considered as 2.10.2014, 3.12.2014, 4.10.2014, 7.8.2014, 15.10.2014, and 2.7.2014 respectively. Thus, the tariff is worked out for the subject assets from respective COD of the assets to 31.3.2019.

### **Capital Cost**

18. The petitioner has claimed the capital cost as mentioned in Para 7 supported by Auditor’s Certificate dated 21.7.2015 for Assets-A, B, C and E and dated 8.3.2016 for Asset-D and F. This capital cost includes the Interest During Construction (IDC), Incidental Expenditure During Construction (IEDC), capitalized spares and estimated additional capital expenditure from COD to 31.3.2019.

19. 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.”

20. The petitioner has submitted the details of capital cost and estimated additional capital expenditure in respect of the instant assets vide affidavit dated 12.4.2016.

21. The petitioner has also submitted, the details of IDC discharged on cash basis and other details in respect of year wise details of liability discharged corresponding to initial spares vide affidavit dated 12.4.2016. The admissible capital cost of the transmission asset as on COD is worked out in the subsequent paragraphs taking into consideration the initial spares and IEDC and IDC allowed.

### **Cost over-run**

22. As per the original Investment approval, the cost of the project was ₹9283 lakh which has been revised to ₹10211 lakh vide the Revised Cost Estimates dated 12.10.2015. In response to query of the Commission, the petitioner has submitted the revised forms as per apportioned RCE for the instant transmission assets. The estimated completion cost is within the apportioned approved cost as given in Para 7 of this order. Hence, there is no cost over-run.

23. There is huge difference in the estimated completion cost of Assets-B and D, E and F even though the Bus Reactors are of the same configuration. Accordingly, the petitioner was directed to submit the detailed justification for the variation in cost of these assets. The petitioner has submitted, vide affidavit dated 21.4.2016, that even though all the reactors are of identical rating, the switching arrangements were different for each one of them. The switching arrangements are invariably dependent upon the space available in sub-station switchyard area and switching equipments required for respective bus reactors. The petitioner has further submitted that each reactor basically requires a circuit breaker, an isolator, and a surge arrestor to function as a bus-reactor. The petitioner has submitted the Bill of Quantities for the assets based on their configuration and has stated that it is line with the schematic diagram of the assets. The details furnished by the petitioner are as below:-

<b>Asset</b>	<b>Switchyard type</b>	<b>Main characteristics</b>	<b>Total estimated expenditure (₹ in lakh)</b>
1x125 MVAR Bus Reactor at 400 kV Damoh Sub-station	I type configuration - other line bay in the dia is pertaining to existing Birsinghpur-II	1 Circuit Breaker, 1 isolator and 1 LA used (Basic scheme)	1025.17
1x125 MVAR Bus Reactor at 400 kV Bachau Sub-station	I type configuration - other bay in the dia is pertaining to future requirements	2 Circuit Breaker, 3 isolators and 1 LA used	2010.02
1x125 MVAR Bus Reactor at 400 kV Pirana Sub-station	I type configuration - other line bay in the dia is pertaining to existing Vadodra-I	1 Circuit Breaker, 1 isolator and 1 LA used (Basic scheme)	1001.18
1x125 MVAR Bus Reactor-1 at 400 kV Itarsi Sub-station	D type configuration - existing CB used and no bay claimed	No Circuit Breaker, isolators required, only LA used to replace the existing 2x50 MVAR Bus reactors at Itarsi Sub-station as per investment approval	601.36
1x125 MVAR Bus Reactor-2 at 400 kV Itarsi Sub-station	D type configuration - existing CB used and no bay claimed		560.86
1x125 MVAR Bus Reactor at 400 kV Gwalior Sub-station	I type configuration - existing CB used and no bay claimed	No Circuit Breaker, isolators required, only LA used to replace the existing 50 MVAR Bus reactor at Gwalior Sub-station as per investment approval	536.05

24. We have considered the submissions of the petitioner regarding the difference in cost of the Bus Reactors. It is observed that the in case of Asset-B, 3 Circuit Breakers and 3 Isolators are used when compared to one Circuit Breaker and one Isolator in case of Assets-A and C. Thus, the cost of Asset-B is the higher when compared to the cost of other two reactors covered in Assets-B and C. In case of Assets-D, E and F, existing Circuit Breakers are used and no new Isolators, Circuit Breakers and bays are constructed and hence the cost of these assets is lesser than the cost of other three assets. The difference in cost of these reactors is due to use

of equipments as per the requirements and hence the variation in cost of these reactors is approved.

**Time Over-run**

25. As per the Investment Approval, the project was scheduled to be commissioned within 24 months from the date of Investment Approval. The date of Investment Approval was 5.4.2013 and accordingly the schedule date of completion of work was 5.4.2015. Against the scheduled completion date of 5.4.2015, Assets-A, B, C, D, E and F have been commissioned on 2.10.2014, 3.12.2014, 4.10.2014, 7.8.2014, 15.10.2014, and 2.7.2014 respectively. Thus, there is no time over-run.

**Interest during construction (IDC) and Incidental Expenditure during construction (IEDC)**

26. The petitioner has submitted, vide affidavit dated 12.4.2016, the details of IDC and IEDC discharged up to COD as below:-

(` in lakh)

Asset	Actual COD	IDC as per Auditor's Certificate	IDC discharged up to COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16
Asset-A	2.10.2014	14.89	10.61	4.04	0.24
Asset-B	3.12.2014	43.89	24.32	10.12	9.45
Asset-C	4.10.2014	11.00	10.46	0.12	0.42
Asset-D	7.8.2014	1.34	0.38	0.96	-
Asset-E	15.10.2014	9.26	5.82	1.09	2.35
Asset-F	2.7.2014	9.56	6.13	3.43	-

The petitioner has submitted that complete IEDC was discharged up to COD for all the assets, and the same has been considered, along with IDC discharged on cash basis, for the tariff computation purpose.



### **Initial Spares**

27. The petitioner has claimed initial spares of ₹60.27 lakh, ₹117.00 lakh, ₹57.50 lakh and ₹32.00 lakh pertaining to sub-station, corresponding to capital cost of ₹1004.51 lakh, ₹1953.96 lakh, ₹984.05 lakh and ₹545.47 lakh (excluding IDC, IEDC, Land cost and cost of civil works) up to the cut-off date of 31.3.2017 for Asset-A, B, C and E respectively. Further, the petitioner has submitted vide affidavit dated 12.4.2016, the details of liability corresponding to the initial spares discharged up to COD and thereafter, as below:

(₹ in lakh)

<b>Asset</b>	<b>Spares discharged up to COD and included in exp. up to COD in the Auditor Certificate</b>	<b>Estimated Spares in 2015-16</b>	<b>Balance liability</b>	<b>Total spares</b>
<b>Asset-A</b>	18.58	30.46	11.23	60.27
<b>Asset-B</b>	29.89	7.93	79.18	117.00
<b>Asset-C</b>	19.07	9.85	38.43	57.50
<b>Asset-E</b>	0.00	0.00	22.15	32.00

\*No initial spares have been claimed for Asset-D and F

28. The petitioner has submitted that the capital cost as certified in the Auditor's Certificate dated 21.7.2015 for Asset-A, B, C and E and dated 8.3.2016 for Asset-D and F includes the liability corresponding to initial spares as discharged up to COD and the remaining as additional capital expenditure.

29. The allowable initial spares have been computed based on the norms in accordance with clause 13 of Tariff Regulations 2014, as below:



(₹ in lakh)

Asset	Element	P&M Cost as per Auditor's Certificate (exc. IDC, IEDC, civil works)	Initial Spares Claimed (as submitted vide Auditor's certificate)	Ceiling limit as per 2014 Regulation	Initial spares allowed	Excess initial spares
Asset-A	Substation	1004.51	60.27	6.00%	60.27	0.00
Asset-B	Substation	1953.96	117.00	6.00%	117.25	0.00
Asset-C	Substation	984.05	57.50	6.00%	59.14	0.00
Asset-E	Substation	545.47	32.00	6.00%	32.77	0.00

\*No initial spares have been claimed for Asset-D and F

30. The initial spares claimed by the petitioner are within the normative limits in accordance with clause 13 of the Tariff Regulations. Thus, the same is allowed for computation of tariff.

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

#### Asset-A:

(₹ in lakh)

Particulars	Capital cost on COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16	Capital cost on COD considered for tariff computation
Land - Freehold	-	-	-	-
Land - Leasehold	-	-	-	-
Building Civil Works & Colony	-	-	-	-
Transmission Line	-	-	-	-
Sub Station	464.84	4.04	0.24	460.56
PLCC	-	-	-	-
<b>Total</b>	<b>464.84</b>	<b>4.04</b>	<b>0.24</b>	<b>460.56</b>

**Asset-B:**

(₹ in lakh)

Particulars	Capital cost on COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16	Capital cost on COD considered for tariff computation
Land - Freehold	-	-	-	-
Land - Leasehold	-	-	-	-
Building Civil Works & Colony	-	-	-	-
Transmission Line	-	-	-	-
Sub Station	910.91	10.12	9.45	891.34
PLCC	-	-	-	-
<b>Total</b>	<b>910.91</b>	<b>10.12</b>	<b>9.45</b>	<b>891.34</b>

**Asset-C:**

(₹ in lakh)

Particulars	Capital cost on COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16	Capital cost on COD considered for tariff computation
Land - Freehold	-	-	-	-
Land - Leasehold	-	-	-	-
Building Civil Works & Colony	-	-	-	-
Transmission Line	-	-	-	-
Sub Station	453.81	0.12	0.42	453.27
PLCC	-	-	-	-
<b>Total</b>	<b>453.81</b>	<b>0.12</b>	<b>0.42</b>	<b>453.27</b>

**Asset-D:**

(₹ in lakh)

Particulars	Capital cost on COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16	Capital cost on COD considered for tariff computation
Land - Freehold	-	-	-	-
Land - Leasehold	-	-	-	-
Building Civil Works & Colony	-	-	-	-
Transmission Line	-	-	-	-
Sub Station	410.97	0.96	-	410.01
PLCC	-	-	-	-
<b>Total</b>	<b>410.97</b>	<b>0.96</b>	<b>-</b>	<b>410.01</b>

**Asset-E:**

(₹ in lakh)

Particulars	Capital cost on COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16	Capital cost on COD considered for tariff computation
Land - Freehold	-	-	-	-
Land - Leasehold	-	-	-	-
Building Civil Works & Colony	-	-	-	-
Transmission Line	-	-	-	-
Sub Station	425.41	1.09	2.35	421.97
PLCC	-	-	-	-
<b>Total</b>	<b>425.41</b>	<b>1.09</b>	<b>2.35</b>	<b>421.97</b>

**Asset-F:**

(₹ in lakh)

Particulars	Capital cost on COD	IDC discharged from COD to 31.3.2015	IDC discharged in 2015-16	Capital cost on COD considered for tariff computation
Land - Freehold	-	-	-	-
Land - Leasehold	-	-	-	-
Building Civil Works & Colony	-	-	-	-
Transmission Line	-	-	-	-
Sub Station	318.85	3.43	-	315.42
PLCC	-	-	-	-
<b>Total</b>	<b>318.85</b>	<b>3.43</b>	<b>-</b>	<b>315.42</b>

**Additional Capital Expenditure**

32. 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.”

33. 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 ”

34. The petitioner has claimed an estimated additional capital expenditure of ₹560.34 lakh, ₹1099.11 lakh, ₹547.37 lakh, ₹190.38 lakh, ₹135.45 lakh and ₹217.20 lakh during 2014-19 tariff period in Asset-A, B, C, D, E and F respectively, on account of balance and retention payments.

35. The additional capital expenditure claimed by the petitioner is on account of balance and retention payments and the total estimated completion cost is within the apportioned approved cost. The same is allowed under Regulation 14(1) of 2014 Tariff Regulations, subject to true up on actual basis. Further, the IDC discharged on cash basis, as treated in para 26 is allowed as additional capital expenditure in the corresponding year of discharge. Thus the additional capital expenditure allowed for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset	Apportioned approved cost as per RCE	Exp. Up to COD	Additional capital expenditure approved				Total Est. Exp.
			Exp. for 2014-15	Exp. for 2015-16	Exp. for 2016-17	Total	
Asset-A	1026.88	460.56	223.25	257.01	84.35	564.61	1025.17
Asset-B	2044.46	891.34	324.40	698.17	96.11	1118.68	2010.02
Asset-C	1046.39	453.27	174.47	301.80	71.64	547.91	1001.18
Asset-D	635.40	410.01	107.82	65.42	18.11	191.35	601.36
Asset-E	635.40	421.97	1.09	99.96	37.84	138.89	560.86
Asset-F	658.16	315.42	122.30	47.79	50.54	220.63	536.05

## Debt: Equity

36. 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 submitted, vide affidavit dated 21.4.2016, the debt: equity ratio considered for all the assets. The petitioner has considered debt: equity ratio of 70:30 in all assets which is in line with the 2014 Tariff Regulations, hence the same is considered for calculation of tariff.

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

(₹ in lakh)

Funding	As on COD	(%)	Additional capital expenditure during 2014-19	(%)	As on 31.3.2019	(%)
<b>Asset-A</b>						
Debt	322.39	70.00	395.23	70.00	717.62	70.00
Equity	138.17	30.00	169.38	30.00	307.55	30.00
<b>Total</b>	<b>460.56</b>	<b>100.00</b>	<b>564.61</b>	<b>100.00</b>	<b>1025.17</b>	<b>100.00</b>
<b>Asset-B</b>						
Debt	623.94	70.00	783.08	70.00	1407.01	70.00
Equity	267.40	30.00	335.60	30.00	603.01	30.00
<b>Total</b>	<b>891.34</b>	<b>100.00</b>	<b>1118.68</b>	<b>100.00</b>	<b>2010.02</b>	<b>100.00</b>
<b>Asset-C</b>						
Debt	317.29	70.00	383.54	70.00	700.83	70.00
Equity	135.98	30.00	164.37	30.00	300.35	30.00
<b>Total</b>	<b>453.27</b>	<b>100.00</b>	<b>547.91</b>	<b>100.00</b>	<b>1001.18</b>	<b>100.00</b>



Funding	As on COD	(%)	Additional capital expenditure during 2014-19	(%)	As on 31.3.2019	(%)
<b>Asset-D</b>						
Debt	287.02	70.00	133.95	70.00	420.97	70.00
Equity	122.99	30.00	57.41	30.00	180.40	30.00
<b>Total</b>	<b>410.01</b>	<b>100.00</b>	<b>191.35</b>	<b>100.00</b>	<b>601.36</b>	<b>100.00</b>
<b>Asset-E</b>						
Debt	295.38	70.00	392.60	70.00	687.98	70.00
Equity	126.59	30.00	168.26	30.00	294.85	30.00
<b>Total</b>	<b>421.97</b>	<b>100.00</b>	<b>560.86</b>	<b>100.00</b>	<b>982.83</b>	<b>100.00</b>
<b>Asset-F</b>						
Debt	220.80	70.00	154.44	70.00	375.24	70.00
Equity	94.62	30.00	66.19	30.00	160.81	30.00
<b>Total</b>	<b>315.42</b>	<b>100.00</b>	<b>220.63</b>	<b>100.00</b>	<b>536.05</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

38. 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.”

39. The petitioner has claimed ROE at the rate of 20.961% during 2014-15 and at 21.342% during 2015-2019 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.

40. 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.

41. 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:-

**Asset-A**

(₹ in lakh)

Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	138.17	205.14	282.25	307.55	307.55
Additions	66.98	77.10	25.31	0.00	0.00
Closing Equity	205.14	282.25	307.55	307.55	307.55
Average Equity	171.66	243.69	294.90	307.55	307.55



Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
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	16.69	48.02	58.11	60.60	60.60

### Asset-B

(₹ in lakh)

Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	267.40	364.72	574.17	603.01	603.01
Additions	97.32	209.45	28.83	0.00	0.00
Closing Equity	364.72	574.17	603.01	603.01	603.01
Average Equity	316.06	469.45	588.59	603.01	603.01
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
Return on Equity	20.21	92.51	115.98	118.83	118.83

### Asset-C

(₹ in lakh)

Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	135.98	188.32	278.86	300.35	300.35
Additions	52.34	90.54	21.49	0.00	0.00
Closing Equity	188.32	278.86	300.35	300.35	300.35
Average Equity	162.15	233.59	289.61	300.35	300.35
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	15.59	46.03	57.07	59.19	59.19

### Asset-D

(₹ in lakh)

Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	122.99	155.34	174.96	180.40	180.40
Additions	32.35	19.63	5.43	0.00	0.00
Closing Equity	155.34	174.96	180.40	180.40	180.40
Average Equity	139.16	165.15	177.68	180.40	180.40
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	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Return on Equity	17.72	32.54	35.01	35.55	35.55

### Asset-E

(₹ in lakh)

Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	126.59	126.92	156.91	168.26	168.26
Additions	0.33	29.99	11.35	0.00	0.00
Closing Equity	126.92	156.91	168.26	168.26	168.26
Average Equity	126.75	141.91	162.58	168.26	168.26
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	11.44	27.96	32.04	33.16	33.16

### Asset-F

(₹ in lakh)

Return on Equity	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	94.62	131.31	145.65	160.81	160.81
Additions	36.69	14.34	15.16	0.00	0.00
Closing Equity	131.31	145.65	160.81	160.81	160.81
Average Equity	112.97	138.48	153.23	160.81	160.81
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	16.57	27.29	30.19	31.69	31.69

### Interest on Loan (“IoL”)

42. 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.”

43. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The petitioner has also prayed that they will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner's prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at Annexure-I and the IOL has been worked out as follows:-

#### Asset-A

(₹ in lakh)

Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	322.39	478.67	658.57	717.62	717.62
Cumulative Repayment upto Previous Year	0.00	14.98	57.87	109.77	163.90
Net Loan-Opening	322.39	463.69	600.70	607.85	553.72
Additions	156.28	179.91	59.05	0.00	0.00
Repayment during the year	14.98	42.89	51.90	54.13	54.13
Net Loan-Closing	463.69	600.70	607.85	553.72	499.59
Average Loan	393.04	532.19	604.27	580.78	526.65
Weighted Average Rate of Interest on Loan (%)	10.0259	10.0625	10.0619	10.0631	10.0670
Interest on Loan	19.54	53.55	60.80	58.44	53.02

#### Asset-B

(₹ in lakh)

Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	623.94	851.02	1339.74	1407.01	1407.01
Cumulative Repayment upto Previous Year	0.00	18.14	100.76	204.35	310.48
Net Loan-Opening	623.94	832.88	1238.98	1202.66	1096.53



Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Additions	227.08	488.72	67.28	0.00	0.00
Repayment during the year	18.14	82.62	103.59	106.13	106.13
Net Loan-Closing	832.88	1238.98	1202.66	1096.53	990.41
Average Loan	728.41	1035.93	1220.82	1149.60	1043.47
Weighted Average Rate of Interest on Loan (%)	9.7419	9.6391	9.6368	9.6322	9.6351
Interest on Loan	23.14	99.85	117.65	110.73	100.54

### Asset-C

(₹ in lakh)

Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	317.29	439.42	650.68	700.83	700.83
Cumulative Repayment upto Previous Year	0.00	14.00	55.11	106.08	158.94
Net Loan-Opening	317.29	425.42	595.57	594.75	541.88
Additions	122.13	211.26	50.15	0.00	0.00
Repayment during the year	14.00	41.11	50.97	52.86	52.86
Net Loan-Closing	425.42	595.57	594.75	541.88	489.02
Average Loan	371.36	510.50	595.16	568.32	515.45
Weighted Average Rate of Interest on Loan (%)	9.4891	9.3102	9.3021	9.2856	9.2685
Interest on Loan	17.28	47.53	55.36	52.77	47.77

### Asset-D

(₹ in lakh)

Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	287.02	362.49	408.29	420.97	420.97
Cumulative Repayment upto Previous Year	0.00	15.90	44.97	76.25	108.00
Net Loan-Opening	287.02	346.59	363.31	344.72	312.97
Additions	75.47	45.79	12.68	0.00	0.00
Repayment during the year	15.90	29.07	31.27	31.75	31.75
Net Loan-Closing	346.59	363.31	344.72	312.97	281.21
Average Loan	316.80	354.95	354.02	328.84	297.09
Weighted Average Rate of Interest on Loan (%)	9.2217	9.1163	9.1156	9.1123	9.1069
Interest on Loan	18.97	32.36	32.27	29.97	27.06

### Asset-E

(₹ in lakh)

Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	295.38	296.14	366.11	392.60	392.60
Cumulative Repayment upto	0.00	10.27	35.24	63.86	93.47



Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Previous Year					
Net Loan-Opening	295.38	285.87	330.87	328.74	299.13
Additions	0.76	69.97	26.49	0.00	0.00
Repayment during the year	10.27	24.98	28.61	29.61	29.61
Net Loan-Closing	285.87	330.87	328.74	299.13	269.52
Average Loan	290.63	308.37	329.81	313.94	284.32
Weighted Average Rate of Interest on Loan (%)	9.5158	9.5156	9.5085	9.4936	9.4778
Interest on Loan	12.73	29.34	31.36	29.80	26.95

## Asset-F

(₹ in lakh)

Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	220.80	306.41	339.86	375.24	375.24
Cumulative Repayment upto Previous Year	0.00	14.87	39.24	66.21	94.52
Net Loan-Opening	220.80	291.54	300.62	309.03	280.72
Additions	85.61	33.45	35.38	0.00	0.00
Repayment during the year	14.87	24.37	26.97	28.30	28.30
Net Loan-Closing	291.54	300.62	309.03	280.72	252.42
Average Loan	256.17	296.08	304.82	294.88	266.57
Weighted Average Rate of Interest on Loan (%)	9.5675	9.3752	9.3647	9.3376	9.3019
Interest on Loan	18.33	27.76	28.55	27.53	24.80

## Depreciation

44. 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.”

45. 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”

46. 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 asset has been considered as 25 years in accordance with the above regulation. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

**Asset-A**

(₹ in lakh)

Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	460.56	683.81	940.82	1025.17	1025.17
Additional Capitalization	223.25	257.01	84.35	0.00	0.00
Closing Gross Block	683.81	940.82	1025.17	1025.17	1025.17
Average Gross Block	572.19	812.32	983.00	1025.17	1025.17
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	25	24	23	22	21
Elapsed life	0	1	2	3	4



<b>Depreciation</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Remaining Depreciable Value	514.97	716.10	826.82	812.88	758.75
Depreciation during the year	14.98	42.89	51.90	54.13	54.13
Cumulative depreciation (incl. of AAD)	14.98	57.87	109.77	163.90	218.03

### Asset-B

(₹ in lakh)

<b>Depreciation</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	891.34	1215.74	1913.91	2010.02	2010.02
Additional Capitalization	324.40	698.17	96.11	0.00	0.00
Closing Gross Block	1215.74	1913.91	2010.02	2010.02	2010.02
Average Gross Block	1053.54	1564.83	1961.97	2010.02	2010.02
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	25	24	23	22	21
Elapsed life	0	1	2	3	4
Remaining Depreciable Value	948.19	1390.21	1665.01	1604.67	1498.54
Depreciation during the year	18.14	82.62	103.59	106.13	106.13
Cumulative depreciation (incl. of AAD)	18.14	100.76	204.35	310.48	416.61

### Asset-C

(₹ in lakh)

<b>Depreciation</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	453.27	627.74	929.54	1001.18	1001.18
Additional Capitalization	174.47	301.80	71.64	0.00	0.00
Closing Gross Block	627.74	929.54	1001.18	1001.18	1001.18
Average Gross Block	540.51	778.64	965.36	1001.18	1001.18
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	25	24	23	22	21
Elapsed life	0	1	2	3	4
Remaining Depreciable Value	486.45	686.78	813.72	794.98	742.12
Depreciation during the year	14.00	41.11	50.97	52.86	52.86
Cumulative depreciation (incl. of AAD)	14.00	55.11	106.08	158.94	211.80



## Asset-D

(₹ in lakh)

Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	410.01	517.83	583.25	601.36	601.36
Additional Capitalization	107.82	65.42	18.11	0.00	0.00
Closing Gross Block	517.83	583.25	601.36	601.36	601.36
Average Gross Block	463.92	550.54	592.31	601.36	601.36
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	25	24	23	22	21
Elapsed life	0	1	2	3	4
Remaining Depreciable Value	417.53	479.58	488.10	464.98	433.23
Depreciation during the year	15.90	29.07	31.27	31.75	31.75
Cumulative depreciation (incl. of AAD)	15.90	44.97	76.25	108.00	139.75

## Asset-E

(₹ in lakh)

Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	421.97	423.06	523.02	560.86	560.86
Additional Capitalization	1.09	99.96	37.84	0.00	0.00
Closing Gross Block	423.06	523.02	560.86	560.86	560.86
Average Gross Block	422.52	473.04	541.94	560.86	560.86
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	25	24	23	22	21
Elapsed life	0	1	2	3	4
Remaining Depreciable Value	380.26	415.47	452.50	440.91	411.30
Depreciation during the year	10.27	24.98	28.61	29.61	29.61
Cumulative depreciation (incl. of AAD)	10.27	35.24	63.86	93.47	123.09

## Asset-F

(₹ in lakh)

Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	315.42	437.72	485.51	536.05	536.05
Additional Capitalization	122.30	47.79	50.54	0.00	0.00
Closing Gross Block	437.72	485.51	536.05	536.05	536.05
Average Gross Block	376.57	461.62	510.78	536.05	536.05
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	25	24	23	22	21
Elapsed life	0	1	2	3	4



<b>Depreciation</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Remaining Depreciable Value	338.91	400.58	420.46	416.23	387.93
Depreciation during the year	14.87	24.37	26.97	28.30	28.30
Cumulative depreciation (incl. of AAD)	14.87	39.24	66.21	94.52	122.82

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

47. The petitioner has claimed O&M Expenses as specified in sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. The petitioner has not claimed the O&M expenses in respect of Assets-D, E and F. The details of O&M Expenses allowed are given hereunder:-

<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Asset-A 765 kV bay</b>					
No.	1	1	1	1	1
Norms (₹ lakh/bay)	84.42	87.22	90.12	93.11	96.20
Total O&M Expenses (₹ lakh)	41.86	87.22	90.12	93.11	96.20
<b>Asset-B 400 kV bay</b>					
No.	1	1	1	1	1
Norms (₹ lakh/bay)	60.30	62.30	64.37	66.51	68.71
Total O&M Expenses (₹ lakh)	19.66	62.30	64.37	66.51	68.71
<b>Asset-C 400 kV bay</b>					
No.	1	1	1	1	1
Norms (₹ lakh/bay)	60.30	62.30	64.37	66.51	68.71
Total O&M Expenses (₹ lakh)	29.57	62.30	64.37	66.51	68.71

48. 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.

49. 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**

50. 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;”

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

52. 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:-

## Asset-A

(₹ in lakh)

Interest on Working Capital	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	32.46	39.97	44.97	45.90	45.52
Total	52.16	60.32	66.00	67.63	67.97
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	3.49	8.14	8.91	9.13	9.18

## Asset-B

(₹ in lakh)

Interest on Working Capital	2014-15 (pro-rata)	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	42.76	57.84	68.82	68.93	67.58
Total	56.83	72.38	83.84	84.45	83.61
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	2.50	9.77	11.32	11.40	11.29

## Asset-C

(₹ in lakh)

Interest on Working Capital	2014-15 (pro-rata)	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	26.90	33.92	39.18	39.80	39.33
Total	40.97	48.46	54.20	55.32	55.37
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	2.71	6.54	7.32	7.47	7.47

## Asset-D

(₹ in lakh)

Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	13.81	16.02	16.80	16.58	16.09
Total	13.81	16.02	16.80	16.58	16.09
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	1.21	2.16	2.27	2.24	2.17



## Asset-E

(₹ in lakh)

Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	12.76	14.03	15.69	15.78	15.30
Total	12.76	14.03	15.69	15.78	15.30
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	0.79	1.89	2.12	2.13	2.07

## Asset-F

(₹ in lakh)

Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	11.35	13.54	14.61	14.92	14.46
Total	11.35	13.54	14.61	14.92	14.46
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	1.15	1.83	1.97	2.01	1.95

## ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD

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

## Asset-A

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	460.56	683.81	940.82	1025.17	1025.17
Additional Capitalisation	223.25	257.01	84.35	0.00	0.00
Closing Gross Block	683.81	940.82	1025.17	1025.17	1025.17
Average Gross Block	572.19	812.32	983.00	1025.17	1025.17
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	514.97	731.08	884.70	922.65	922.65
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	514.97	716.10	826.82	812.88	758.75



<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	14.98	42.89	51.90	54.13	54.13
Cumulative depreciation	14.98	57.87	109.77	163.90	218.03
<b>Interest on Loan</b>					
Gross Normative Loan	322.39	478.67	658.57	717.62	717.62
Cumulative Repayment upto Previous Year	0.00	14.98	57.87	109.77	163.90
Net Loan-Opening	322.39	463.69	600.70	607.85	553.72
Additions	156.28	179.91	59.05	0.00	0.00
Repayment during the year	14.98	42.89	51.90	54.13	54.13
Net Loan-Closing	463.69	600.70	607.85	553.72	499.59
Average Loan	393.04	532.19	604.27	580.78	526.65
Weighted Average Rate of Interest on Loan	10.0259	10.0625	10.0619	10.0631	10.0670
Interest	19.54	53.55	60.80	58.44	53.02
<b>Return on Equity</b>					
Opening Equity	138.17	205.14	282.25	307.55	307.55
Additions	66.98	77.10	25.31	0.00	0.00
Closing Equity	205.14	282.25	307.55	307.55	307.55
Average Equity	171.66	243.69	294.90	307.55	307.55
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	16.69	48.02	58.11	60.60	60.60
<b>Interest on Working Capital</b>					
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	32.46	39.97	44.97	45.90	45.52
Total	52.15	60.32	66.00	67.63	67.97
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	3.49	8.14	8.91	9.13	9.18
<b>Annual Transmission Charges</b>					
Depreciation	14.98	42.89	51.90	54.13	54.13
Interest on Loan	19.54	53.55	60.80	58.44	53.02
Return on Equity	16.69	48.02	58.11	60.60	60.60
Interest on Working Capital	3.49	8.14	8.91	9.13	9.18
O & M Expenses	41.86	87.22	90.12	93.11	96.20
<b>Total</b>	<b>96.57</b>	<b>239.83</b>	<b>269.84</b>	<b>275.42</b>	<b>273.13</b>

**Asset-B**

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	891.34	1215.74	1913.91	2010.02	2010.02
Additional Capitalisation	324.40	698.17	96.11	0.00	0.00
Closing Gross Block	1215.74	1913.91	2010.02	2010.02	2010.02
Average Gross Block	1053.54	1564.83	1961.97	2010.02	2010.02
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	948.19	1408.34	1765.77	1809.02	1809.02
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	948.19	1390.21	1665.01	1604.67	1498.54
Depreciation	18.14	82.62	103.59	106.13	106.13
Cumulative depreciation	18.14	100.76	204.35	310.48	416.61
<b>Interest on Loan</b>					
Gross Normative Loan	623.94	851.02	1339.74	1407.01	1407.01
Cumulative Repayment upto Previous Year	0.00	18.14	100.76	204.35	310.48
Net Loan-Opening	623.94	832.88	1238.98	1202.66	1096.53
Additions	227.08	488.72	67.28	0.00	0.00
Repayment during the year	18.14	82.62	103.59	106.13	106.13
Net Loan-Closing	832.88	1238.98	1202.66	1096.53	990.41
Average Loan	728.41	1035.93	1220.82	1149.60	1043.47
Weighted Average Rate of Interest on Loan	9.7419	9.6391	9.6368	9.6322	9.6351
Interest	23.14	99.85	117.65	110.73	100.54
<b>Return on Equity</b>					
Opening Equity	267.40	364.72	574.17	603.01	603.01
Additions	97.32	209.45	28.83	0.00	0.00
Closing Equity	364.72	574.17	603.01	603.01	603.01
Average Equity	316.06	469.45	588.59	603.01	603.01
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	20.21	92.51	115.98	118.83	118.83
<b>Interest on Working Capital</b>					
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	42.76	57.84	68.82	68.93	67.58
Total	56.83	72.38	83.84	84.45	83.61
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Interest on working capital	2.50	9.77	11.32	11.40	11.29
<b>Annual Transmission Charges</b>					
Depreciation	18.14	82.62	103.59	106.13	106.13
Interest on Loan	23.14	99.85	117.65	110.73	100.54
Return on Equity	20.21	92.51	115.98	118.83	118.83
Interest on Working Capital	2.50	9.77	11.32	11.40	11.29
O & M Expenses	19.66	62.30	64.37	66.51	68.71
<b>Total</b>	<b>83.64</b>	<b>347.06</b>	<b>412.91</b>	<b>413.60</b>	<b>405.49</b>

## Asset-C

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	453.27	627.74	929.54	1001.18	1001.18
Additional Capitalisation	174.47	301.80	71.64	0.00	0.00
Closing Gross Block	627.74	929.54	1001.18	1001.18	1001.18
Average Gross Block	540.51	778.64	965.36	1001.18	1001.18
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	486.45	700.78	868.82	901.06	901.06
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	486.45	686.78	813.72	794.98	742.12
Depreciation	14.00	41.11	50.97	52.86	52.86
Cumulative depreciation	14.00	55.11	106.08	158.94	211.80
<b>Interest on Loan</b>					
Gross Normative Loan	317.29	439.42	650.68	700.83	700.83
Cumulative Repayment upto Previous Year	0.00	14.00	55.11	106.08	158.94
Net Loan-Opening	317.29	425.42	595.57	594.75	541.88
Additions	122.13	211.26	50.15	0.00	0.00
Repayment during the year	14.00	41.11	50.97	52.86	52.86
Net Loan-Closing	425.42	595.57	594.75	541.88	489.02
Average Loan	371.36	510.50	595.16	568.32	515.45
Weighted Average Rate of Interest on Loan	9.4891	9.3102	9.3021	9.2856	9.2685
Interest	17.28	47.53	55.36	52.77	47.77
<b>Return on Equity</b>					



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	135.98	188.32	278.86	300.35	300.35
Additions	52.34	90.54	21.49	0.00	0.00
Closing Equity	188.32	278.86	300.35	300.35	300.35
Average Equity	162.15	233.59	289.61	300.35	300.35
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	15.59	46.03	57.07	59.19	59.19
<b>Interest on Working Capital</b>					
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	26.90	33.92	39.18	39.80	39.33
Total	40.97	48.46	54.20	55.32	55.37
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	2.71	6.54	7.32	7.47	7.47
<b>Annual Transmission Charges</b>					
Depreciation	14.00	41.11	50.97	52.86	52.86
Interest on Loan	17.28	47.53	55.36	52.77	47.77
Return on Equity	15.59	46.03	57.07	59.19	59.19
Interest on Working Capital	2.71	6.54	7.32	7.47	7.47
O & M Expenses	29.57	62.30	64.37	66.51	68.71
<b>Total</b>	<b>79.16</b>	<b>203.51</b>	<b>235.09</b>	<b>238.80</b>	<b>236.01</b>

## Asset-D

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	410.01	517.83	583.25	601.36	601.36
Additional Capitalisation	107.82	65.42	18.11	0.00	0.00
Closing Gross Block	517.83	583.25	601.36	601.36	601.36
Average Gross Block	463.92	550.54	592.31	601.36	601.36
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	417.53	495.49	533.07	541.22	541.22
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	417.53	479.58	488.10	464.98	433.23
Depreciation	15.90	29.07	31.27	31.75	31.75
Cumulative depreciation	15.90	44.97	76.25	108.00	139.75
<b>Interest on Loan</b>					



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	287.02	362.49	408.29	420.97	420.97
Cumulative Repayment upto Previous Year	0.00	15.90	44.97	76.25	108.00
Net Loan-Opening	287.02	346.59	363.31	344.72	312.97
Additions	75.47	45.79	12.68	0.00	0.00
Repayment during the year	15.90	29.07	31.27	31.75	31.75
Net Loan-Closing	346.59	363.31	344.72	312.97	281.21
Average Loan	316.80	354.95	354.02	328.84	297.09
Weighted Average Rate of Interest on Loan	9.2217	9.1163	9.1156	9.1123	9.1069
Interest	18.97	32.36	32.27	29.97	27.06
<b>Return on Equity</b>					
Opening Equity	122.99	155.34	174.96	180.40	180.40
Additions	32.35	19.63	5.43	0.00	0.00
Closing Equity	155.34	174.96	180.40	180.40	180.40
Average Equity	139.16	165.15	177.68	180.40	180.40
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	17.72	32.54	35.01	35.55	35.55
<b>Interest on Working Capital</b>					
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	13.81	16.02	16.80	16.58	16.09
Total	13.81	16.02	16.80	16.58	16.09
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	1.21	2.16	2.27	2.24	2.17
<b>Annual Transmission Charges</b>					
Depreciation	15.90	29.07	31.27	31.75	31.75
Interest on Loan	18.97	32.36	32.27	29.97	27.06
Return on Equity	17.72	32.54	35.01	35.55	35.55
Interest on Working Capital	1.21	2.16	2.27	2.24	2.17
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>53.81</b>	<b>96.13</b>	<b>100.83</b>	<b>99.50</b>	<b>96.53</b>

## Asset-E

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	421.97	423.06	523.02	560.86	560.86





<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Additional Capitalisation	1.09	99.96	37.84	0.00	0.00
Closing Gross Block	423.06	523.02	560.86	560.86	560.86
Average Gross Block	422.52	473.04	541.94	560.86	560.86
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	380.26	425.74	487.75	504.77	504.77
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	380.26	415.47	452.50	440.91	411.30
Depreciation	10.27	24.98	28.61	29.61	29.61
Cumulative depreciation	10.27	35.24	63.86	93.47	123.09
<b>Interest on Loan</b>					
Gross Normative Loan	295.38	296.14	366.11	392.60	392.60
Cumulative Repayment upto Previous Year	0.00	10.27	35.24	63.86	93.47
Net Loan-Opening	295.38	285.87	330.87	328.74	299.13
Additions	0.76	69.97	26.49	0.00	0.00
Repayment during the year	10.27	24.98	28.61	29.61	29.61
Net Loan-Closing	285.87	330.87	328.74	299.13	269.52
Average Loan	290.63	308.37	329.81	313.94	284.32
Weighted Average Rate of Interest on Loan	9.5158	9.5156	9.5085	9.4936	9.4778
Interest	12.73	29.34	31.36	29.80	26.95
<b>Return on Equity</b>					
Opening Equity	126.59	126.92	156.91	168.26	168.26
Additions	0.33	29.99	11.35	0.00	0.00
Closing Equity	126.92	156.91	168.26	168.26	168.26
Average Equity	126.75	141.91	162.58	168.26	168.26
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	11.44	27.96	32.04	33.16	33.16
<b>Interest on Working Capital</b>					
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	12.76	14.03	15.69	15.78	15.30
Total	12.76	14.03	15.69	15.78	15.30
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	0.79	1.89	2.12	2.13	2.07
<b>Annual Transmission Charges</b>					
Depreciation	10.27	24.98	28.61	29.61	29.61
Interest on Loan	12.73	29.34	31.36	29.80	26.95
Return on Equity	11.44	27.96	32.04	33.16	33.16

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	0.79	1.89	2.12	2.13	2.07
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>35.23</b>	<b>84.18</b>	<b>94.13</b>	<b>94.70</b>	<b>91.78</b>

## Asset-F

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	315.42	437.72	485.51	536.05	536.05
Additional Capitalisation	122.30	47.79	50.54	0.00	0.00
Closing Gross Block	437.72	485.51	536.05	536.05	536.05
Average Gross Block	376.57	461.62	510.78	536.05	536.05
Rate of Depreciation	5.28	5.28	5.28	5.28	5.28
Depreciable Value	338.91	415.45	459.70	482.45	482.45
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	338.91	400.58	420.46	416.23	387.93
Depreciation	14.87	24.37	26.97	28.30	28.30
Cumulative depreciation	14.87	39.24	66.21	94.52	122.82
<b>Interest on Loan</b>					
Gross Normative Loan	220.80	306.41	339.86	375.24	375.24
Cumulative Repayment upto Previous Year	0.00	14.87	39.24	66.21	94.52
Net Loan-Opening	220.80	291.54	300.62	309.03	280.72
Additions	85.61	33.45	35.38	0.00	0.00
Repayment during the year	14.87	24.37	26.97	28.30	28.30
Net Loan-Closing	291.54	300.62	309.03	280.72	252.42
Average Loan	256.17	296.08	304.82	294.88	266.57
Weighted Average Rate of Interest on Loan	9.5675	9.3752	9.3647	9.3376	9.3019
Interest	18.33	27.76	28.55	27.53	24.80
<b>Return on Equity</b>					
Opening Equity	94.62	131.31	145.65	160.81	160.81
Additions	36.69	14.34	15.16	0.00	0.00
Closing Equity	131.31	145.65	160.81	160.81	160.81
Average Equity	112.97	138.48	153.23	160.81	160.81
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the 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	16.57	27.29	30.19	31.69	31.69
<b>Interest on Working Capital</b>					



<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	0.00	0.00	0.00	0.00	0.00
Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Receivables	11.35	13.54	14.61	14.92	14.46
<b>Total</b>	<b>11.35</b>	<b>13.54</b>	<b>14.61</b>	<b>14.92</b>	<b>14.46</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	1.15	1.83	1.97	2.01	1.95
<b>Annual Transmission Charges</b>					
Depreciation	14.87	24.37	26.97	28.30	28.30
Interest on Loan	18.33	27.76	28.55	27.53	24.80
Return on Equity	16.57	27.29	30.19	31.69	31.69
Interest on Working Capital	1.15	1.83	1.97	2.01	1.95
O & M Expenses	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>50.92</b>	<b>81.25</b>	<b>87.68</b>	<b>89.54</b>	<b>86.74</b>

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

54. 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**

55. 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**

56. 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.

### **Sharing of Transmission Charges**

57. 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.

58. This order disposes of Petition No. 242/TT/2014.

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

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

**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19****Asset-A**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012)-Loan 1-	10.25	35.23	0.00	35.23
BOND-XLV-Loan 2-	9.65	69.72	0.00	69.72
SBI (2014-15)-ADDCAP FOR 2014-2015 Loan 5-	10.25	0.00	153.45	153.45
SBI (2014-15)-ADDCAP FOR 2014-2015 Loan 6 (Accrual IDC)-	10.25	0.00	2.83	2.83
SBI (2014-15)-Loan 4-	10.25	167.00	0.00	167.00
BOND XLVI -Loan 3-	9.30	50.44	0.00	50.44
<b>Total</b>		<b>322.39</b>	<b>156.28</b>	<b>478.67</b>

**WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD**

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	322.39	478.67	478.67	478.67	478.67
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	3.20	12.21
<b>Net Loans Opening</b>	<b>322.39</b>	<b>478.67</b>	<b>478.67</b>	<b>475.47</b>	<b>466.46</b>
Add: Draw(s) during the Year	156.28	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	3.20	9.01	9.01
<b>Net Closing Loan</b>	<b>478.67</b>	<b>478.67</b>	<b>475.47</b>	<b>466.46</b>	<b>457.45</b>
Average Net Loan	400.53	478.67	477.07	470.97	461.96
Rate of Interest on Loan (%)	10.0259%	10.0625%	10.0619%	10.0631%	10.0670%
<b>Interest on Loan</b>	<b>40.16</b>	<b>48.17</b>	<b>48.00</b>	<b>47.39</b>	<b>46.51</b>

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

### Asset-B

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012)-Loan 1-	10.25	69.00	0.00	69.00
BOND-XLV-Loan 2-	9.65	135.00	0.00	135.00
SBI (2014-15)-ADDCAP FOR 2014-2015 Loan 5 (Accrual IDC)-	10.25	0.00	7.08	7.08
SBI (2014-15)-Loan 4-	10.25	263.64	0.00	263.64
BOND XLVI -Loan 3-	9.30	156.30	0.00	156.30
Bond XLVII-ADDCAP FOR 2014-2015 Loan 6-	8.93	0.00	220.00	220.00
<b>Total</b>		<b>623.94</b>	<b>227.08</b>	<b>851.02</b>

## WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	623.94	851.02	851.02	851.02	851.02
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	6.27	23.79
<b>Net Loans Opening</b>	<b>623.94</b>	<b>851.02</b>	<b>851.02</b>	<b>844.75</b>	<b>827.23</b>
Add: Draw(s) during the Year	227.08	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	6.27	17.52	35.85
<b>Net Closing Loan</b>	<b>851.02</b>	<b>851.02</b>	<b>844.75</b>	<b>827.23</b>	<b>791.38</b>
Average Net Loan	737.48	851.02	847.89	835.99	809.31
Rate of Interest on Loan (%)	9.7419%	9.6391%	9.6368%	9.6322%	9.6351%
<b>Interest on Loan</b>	<b>71.84</b>	<b>82.03</b>	<b>81.71</b>	<b>80.52</b>	<b>77.98</b>



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

### Asset-C

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012)-Loan 1-	10.25	82.10	0.00	82.10
SBI (2014-15)-ADDCAP FOR 2014-2015 Loan 4 (Accrual IDC)-	10.25	0.00	0.09	0.09
SBI (2014-15)-Loan 3-	10.25	63.83	0.00	63.83
BOND XLVI-Loan 2-	9.30	171.36	0.00	171.36
Bond XLVIII-ADDCAP FOR 2014-2015 Loan 5-	8.20	0.00	122.05	122.05
<b>Total</b>		<b>317.29</b>	<b>122.14</b>	<b>439.43</b>

## WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	317.29	439.43	439.43	439.43	439.43
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	7.46	14.92
<b>Net Loans Opening</b>	<b>317.29</b>	<b>439.43</b>	<b>439.43</b>	<b>431.97</b>	<b>424.51</b>
Add: Draw(s) during the Year	122.14	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	7.46	7.46	7.46
<b>Net Closing Loan</b>	<b>439.43</b>	<b>439.43</b>	<b>431.97</b>	<b>424.51</b>	<b>417.05</b>
Average Net Loan	378.36	439.43	435.70	428.24	420.78
Rate of Interest on Loan (%)	9.4891%	9.3102%	9.3021%	9.2856%	9.2685%
<b>Interest on Loan</b>	<b>35.90</b>	<b>40.91</b>	<b>40.53</b>	<b>39.76</b>	<b>39.00</b>



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

### Asset-D

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012)-Loan 1-	10.25	5.00	0.00	5.00
BOND - XLV-Loan 2-	9.65	31.30	0.00	31.30
BOND XLVI -ADDCAP FOR 2014-2015 Loan 5 (Accrual IDC)-	9.30	0.00	0.67	0.67
BOND XLVI -Loan 3-	9.30	250.72	0.00	250.72
Bond XLVIII-ADDCAP FOR 2014-2015 Loan 4-	8.20	0.00	74.80	74.80
<b>Total</b>		<b>287.02</b>	<b>75.47</b>	<b>362.49</b>

## WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	287.02	362.49	362.49	362.49	362.49
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.45	3.51
<b>Net Loans Opening</b>	<b>287.02</b>	<b>362.49</b>	<b>362.49</b>	<b>362.04</b>	<b>358.98</b>
Add: Draw(s) during the Year	75.47	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	0.45	3.06	3.06
<b>Net Closing Loan</b>	<b>362.49</b>	<b>362.49</b>	<b>362.04</b>	<b>358.98</b>	<b>355.92</b>
Average Net Loan	324.76	362.49	362.27	360.51	357.45
Rate of Interest on Loan (%)	9.2217%	9.1163%	9.1156%	9.1123%	9.1069%
<b>Interest on Loan</b>	<b>29.95</b>	<b>33.05</b>	<b>33.02</b>	<b>32.85</b>	<b>32.55</b>





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

### Asset-E

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Repayment	Total
SBI (21.03.2012)- Loan 1-	10.25	62.06	0.00	16.92	62.06
BOND - XLV-Loan 2	9.65	13.94	0.00	2.32	13.94
BOND XLVI - ADDCAP TOR 2014-2015 Loan 4 (Accrual IDC)	9.30	0.00	0.76	0.00	0.76
BOND XLVI Loan 3-	9.30	219.38	0.00	0.00	219.38
<b>Total</b>		<b>295.38</b>	<b>0.76</b>	<b>19.24</b>	<b>296.14</b>

## WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	295.38	296.14	296.14	296.14	296.14
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	5.64	12.44
<b>Net Loans Opening</b>	<b>295.38</b>	<b>296.14</b>	<b>296.14</b>	<b>290.50</b>	<b>283.70</b>
Add: Draw(s) during the Year	0.76	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	5.64	6.80	6.80
<b>Net Closing Loan</b>	<b>296.14</b>	<b>296.14</b>	<b>290.50</b>	<b>283.70</b>	<b>276.90</b>
Average Net Loan	295.76	296.14	293.32	287.10	280.30
Rate of Interest on Loan (%)	9.5158%	9.5156%	9.5085%	9.4936%	9.4778%
<b>Interest on Loan</b>	<b>28.14</b>	<b>28.18</b>	<b>27.89</b>	<b>27.26</b>	<b>26.57</b>



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

### Asset-F

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012)-Loan 1	10.25	80.00	0.00	80.00
BOND - XLV-Loan 2-	9.65	120.00	0.00	120.00
BOND XLVI -ADDCAP FOR 2014-2015 Loan 6 (Accrual IDC)-	9.30	0.00	2.40	2.40
BOND XLVI -Loan 3-	9.30	20.80	0.00	20.80
Bond XLVIII-ADDCAP FOR 2014-2015 Loan 4-	8.20	0.00	14.49	14.49
BOND XLIX-ADDCAP FOR 2014-2015 Loan 5-	8.15	0.00	68.72	68.72
<b>Total</b>		<b>220.80</b>	<b>85.61</b>	<b>306.41</b>

## WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2014-19 TARIFF PERIOD

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	220.80	306.41	306.41	306.41	306.41
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	7.27	24.54
<b>Net Loans Opening</b>	<b>220.80</b>	<b>306.41</b>	<b>306.41</b>	<b>299.14</b>	<b>281.87</b>
Add: Draw(s) during the Year	85.61	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	7.27	17.27	17.27
<b>Net Closing Loan</b>	<b>306.41</b>	<b>306.41</b>	<b>299.14</b>	<b>281.87</b>	<b>264.60</b>
Average Net Loan	263.61	306.41	302.78	290.51	273.24
Rate of Interest on Loan (%)	9.5675%	9.3752%	9.3647%	9.3376%	9.3019%
<b>Interest on Loan</b>	<b>25.22</b>	<b>28.73</b>	<b>28.35</b>	<b>27.13</b>	<b>25.42</b>

