

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 69/TT/2016**

**Coram:**

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

**Date of Hearing : 11.07.2016**

**Date of Order : 22.08.2016**

**In the matter of:**

Determination of transmission tariff for **Asset-I:** Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1x160 MVA ICT at 220/132 kV Birpara Sub-station along with associated bays at Birpara Sub-station; **Asset-II:** Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1x160 MVA ICT at 220/132 kV Biripara Sub-station along with associated bays at Siliguri Sub-station; **Asset-III:** Replacement of 315 MVA 400/220 kV ICT- I with 500 MVA 400/220 kV ICT at Patna sub-station; **Asset-IV:** Replacement of 315 MVA 400/220 kV ICT- II with 500 MVA 400/220 kV ICT at Patna Sub-station; **Asset-V:** Replacement of 315 MVA 400/220 kV ICT- I with 500 MVA 400/220 kV ICT at Pusauli Sub-station; **Asset-VI:** Replacement of 315 MVA 400/220 kV ICT- II with 500 MVA 400/220 kV ICT at Pusauli Sub-station; **Asset-VII:** Replacement of 315 MVA 400/220 kV ICT- II with 500 MVA 400/220 kV ICT at Purnea; **Asset-VIII:** Replacement of 1x100 MVA (3rd) ICT with 1x160 MVA, 220/132 kV ICT at Purnea Sub-station; **Asset-IX:** 1 No. of 1x125 MVAR Bus reactor at Baripada Sub-station with GIS bay; **Asset-X:** 1 No. of 1x1500 MVA, 400/220/132 kV ICT at 400/220/132 kV Baripada sub-station along with GIS bays under "Eastern Region Strengthening Scheme-XII" in Eastern Region" for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

Power Grid Corporation of India Ltd.  
'SAUDAMINI', Plot No-2,  
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

**Versus**

1. Bihar State Power (Holding) Company Limited,



(Formerly Bihar State Electricity Board- BSEB)  
Vidyut Bhawan, Bailey Road  
Patna- 800 001

2. West Bengal State Electricity Distribution Company Limited  
Bidyut Bhawan, Bidhan Nagar  
Block DJ, Sector-II, Salt Lake City,  
Kolkata-700 091
3. Grid Corporation of Orissa Ltd.  
Shahid Nagar,  
Bhubaneswar- 751 007
4. Damodar Valley Corporation  
DVC Tower, Maniktala  
Kolkata- 700 054
5. Power Department  
Govt. of Sikkim, Gangtok- 737 101
6. Jharkhand State Electricity Board  
In front of Main Secretariat,  
Doranda, Ranchi- 834002

.....**Respondents**

The following were present:-

For Petitioner : Shri S.S. Raju, PGCIL  
Shri Jasbir Singh, PGCIL  
Shri Amit Yadav, PGCIL  
Shri M.M. Mondal, PGCIL

For Respondent : None

### **ORDER**

This petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for 10 Nos. of assets under “Eastern Region Strengthening Scheme-XII” in Eastern Region for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff)



Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period starting from COD to 31.3.2019. The details of the assets covered in the instant petition is shown in the table below:-

Asset	Description
Asset-I	Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1x160 MVA ICT at 220/132 kV Biripara Sub-station along with associated bays at Biripara Sub-station
Asset-II	Replacement of existing 100 MVA, 220/132 ICT with 01 No. 1x160 MVA ICT at 220/132 kV Biripara Sub-station along with associated bays at Siliguri Sub-station
Asset-III	Replacement of 315 MVA 400/220 kV ICT- I with 500 MVA 400/220 kV ICT at Patna Sub-station
Asset-IV	Replacement of 315 MVA 400/220 kV ICT- II with 500 MVA 400/220 kV ICT at Patna Sub-station
Asset-V	Replacement of 315 MVA 400/220 kV ICT- I with 500 MVA 400/220 kV ICT at Pusauli Sub-station
Asset-VI	Replacement of 315 MVA 400/220 kV ICT- II with 500 MVA 400/220 kV ICT at Pusauli Sub-station
Asset-VII	Replacement of 315 MVA 400/220 kV ICT- II with 500 MVA 400/220 kV ICT at Purnea
Asset-VIII	Replacement of 1x100 MVA (3rd) ICT with 1x160 MVA, 220/132 kV ICT at Purnea Sub-station
Asset-IX	1 No. of 1x125 MVAR Bus reactor at Baripada Sub-station with GIS bay
Asset-X	1 No. of 1x1500 MVA, 400/220/132 kV ICT at 400/220/132 kV Baripada Sub-station along with GIS bays

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

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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner’s company vide Memorandum No. C/CP/ERSS-



XII of Transformation Capacity in Eastern Region dated 19.5.2014 with an estimated cost of ₹52229 lakh including Interest during Construction of ₹3324 lakh, at February, 2014 price level. **The petitioner in the instant petition has submitted the approved apportioned cost for all the assets.**

The details for apportioned approved cost is as under:-

(₹ in lakh)	
Particular	Apportioned approved cost as per FR
Asset-I	983.57
Asset-II	1157.05
Asset-III	2028.96
Asset-IV	2028.96
Asset-V	2055.72
Asset-VI	2055.72
Asset-VII	2044.63
Asset-VIII	996.94
Asset-IX	2864.31
Asset-X	4974.17

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

**1. Reactive Compensation at 400 kV Sub-stations**

- a. Installation of 1x125 MVAR Bus reactor at Baripada with GIS bay.
- b. Installation of 1x125 MVAR Bus reactor at Maithon with GIS bay.
- c. Conversion of 50 MVAR line reactor presently installed at Jeerat end of Baharampur- Jeerat 400 kV line as bus reactor in parallel with existing bus reactor at Jeerat.

**2. Augmentation of transformation capacity**

- a. Addition of 1x500 MVA, 400/220 kV ICT with GIS bays at Baripada 400/220/132 kV sub-station of PGCIL.
- b. Replacement of 2x315 MVA, 400/220 kV ICTs with 2x500 MVA, 400/220 kV ICTs at Purnea#
- c. Replacement of 2x315 MVA, 400/220 kV ICTs with 2x500 MVA, 400/220 kV ICTs at Patna#
- d. Replacement of 2x315 MVA, 400/220 kV ICTs with 2x500 MVA, 400/220 kV ICTs at Pusauli#



- e. Shifting of 1x315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500 MVA ICT) and install it at Jamshedpur 400/220 kV sub-station as 3rd ICT along with associated bays.
  - f. Shifting of 1x315 MVA, 400/220 kV ICT from any suitable location (after replacement by 1x500 MVA ICT) and install it at Farakka 400/220 kV sub-station as 2nd ICT along with associated bays.
  - g. Out of the 6 nos. 315 MVA ICTs released from Purnea, Patna and Pusauli sub-stations, one of them would be kept as spare at Patna and Pusauli sub-station, one each would be diverted to Jamshedpur and Farakka sub-station and remaining 2x315 MVA, 400/220 kV ICTs would be utilized as regional spares.
  - h. Replacement of 1x100 MVA (3rd ICT), 220/132 kV ICTs with 1x160 MVA, 220/132 kV ICT at Purnea 220/132 kV sub-station of PGCIL, along with necessary bay equipment/ protection system.
  - i. Replacement of 1x100 MVA (3rd ICT), 220/132 kV ICTs with 1x160 MVA, 220/132 kV ICT at Siliguri 220/132 kV sub-station of PGCIL, along with necessary bay equipment/ protection system.
  - j. Replacement of 1x100 MVA (3rd ICT), 220/132 kV ICTs with 1x160 MVA, 220/132 kV ICT at Birpara 220/132 kV sub-station of PGCIL, along with necessary bay equipment/ protection system.
  - k. 100 MVA ICTs replaced from Purnea, Siliguri and Birpara shall be kept in the regional pool of spare ICTs.
3. 2 nos 500 MVA single phase spare unit of 765/400 kV ICT for Eastern Region. Procurement of two 500 MVA, single phase unit of 765/400 kV ICT for Eastern Region to be stationed at Angul and Jharsuguda sub-station.
  4. 1 no spare unit of 765 kV, 110 MVAR single phase reactor to be stationed at Sasaram.
  5. Modification of 132 kV bus arrangement including switchgear to Double Main Scheme at 220/132 kV Siliguri and Purnea sub-station with GIS bays.
  6. Construction of 4 nos. 220 kV line bays at Kishanganj sub-station at PGCIL
- (c) The petitioner vide affidavit dated 10.8.2016 has submitted that the transmission assets achieved commercial operation date (COD) as per as under:-



Name of Asset	SCOD	Anticipated/ Actual COD
Asset-I	19-11-16	1.1.2016 (Actual)
Asset-II	19-11-16	2.2.2016 (Actual)
Asset-III	19-11-16	1.11.2016 (Anticipated)
Asset-IV	19-11-16	1.12.2016 (Anticipated)
Asset-V	19-11-16	3.4.2016 (Actual)
Asset-VI	19-11-16	1.10.2016 (Anticipated)
Asset-VII	19-11-16	1.10.2016 (Anticipated)
Asset-VIII	19-11-16	29.2.2016 (Actual)
Asset-IX	19-11-16	30.9.2016 (Anticipated)
Asset-X	19-11-16	30.9.2016 (Anticipated)

4. The petitioner has revised its claim of transmission charges vide affidavit dated 10.8.2016 for all the assets covered in the instant petition for the tariff period from actual/anticipated COD to 31.3.2019 as under:-

(₹ in lakh)

Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	5.83	52.40	64.89	64.89
Interest on Loan	7.06	62.01	72.01	65.94
Return on Equity	6.49	58.39	72.30	72.30
Interest on Working Capital	0.45	3.98	4.82	4.68
O&M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>19.83</b>	<b>176.78</b>	<b>214.02</b>	<b>207.81</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	3.44	47.15	59.53	59.53
Interest on Loan	4.15	55.69	66.00	60.45
Return on Equity	3.83	52.54	66.33	66.33
Interest on Working Capital	0.26	3.58	4.42	4.29



Asset-II				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>11.68</b>	<b>158.96</b>	<b>196.28</b>	<b>190.60</b>

(₹ in lakh)

Asset-III			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	34.83	87.80	90.95
Interest on Loan	36.36	86.81	83.00
Return on Equity	38.81	97.83	101.33
Interest on Working Capital	2.40	5.94	6.00
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>112.40</b>	<b>278.38</b>	<b>281.28</b>

(₹ in lakh)

Asset-IV			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	28.00	88.18	91.33
Interest on Loan	29.31	87.74	83.90
Return on Equity	31.19	98.26	101.76
Interest on Working Capital	1.93	5.98	6.04
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>90.43</b>	<b>280.16</b>	<b>283.03</b>

(₹ in lakh)

Asset-V			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	44.44	82.94	91.42
Interest on Loan	51.45	91.97	94.27
Return on Equity	49.51	92.41	101.86
Interest on Working Capital	3.17	5.83	6.27
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>148.57</b>	<b>273.15</b>	<b>293.82</b>



(₹ in lakh)

Asset-VI			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	44.53	94.21	98.08
Interest on Loan	46.51	92.93	89.32
Return on Equity	49.61	104.97	109.28
Interest on Working Capital	3.07	6.37	6.47
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>143.72</b>	<b>298.48</b>	<b>303.15</b>

(₹ in lakh)

Asset-VII			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	32.65	84.60	99.09
Interest on Loan	35.63	87.82	96.23
Return on Equity	36.38	94.27	110.40
Interest on Working Capital	2.28	5.81	6.66
O&M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>106.94</b>	<b>272.50</b>	<b>312.38</b>

(₹ in lakh)

Asset-VIII				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	2.65	42.30	54.30	56.64
Interest on Loan	3.13	48.24	58.20	56.01
Return on Equity	2.95	47.13	60.50	63.11
Interest on Working Capital	0.20	3.17	3.98	4.05
O&M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>8.93</b>	<b>140.84</b>	<b>176.98</b>	<b>179.81</b>

(₹ in lakh)

Asset-IX			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	67.84	179.68	195.40
Interest on Loan	78.67	198.35	200.20
Return on Equity	75.59	200.20	217.71





Asset-IX			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Interest on Working Capital	6.29	15.58	16.44
O&M Expenses	27.66	56.84	58.73
<b>Total</b>	<b>256.05</b>	<b>650.65</b>	<b>688.48</b>

(₹ in lakh)

Asset-X			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	129.59	289.96	295.78
Interest on Loan	146.48	310.25	291.50
Return on Equity	144.39	323.08	329.57
Interest on Working Capital	11.80	25.54	25.57
O&M Expenses	50.32	103.39	106.83
<b>Total</b>	<b>482.58</b>	<b>1052.22</b>	<b>1049.25</b>

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

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00	0.00
Receivables	13.22	29.46	35.67	34.64
<b>Total</b>	<b>13.22</b>	<b>29.46</b>	<b>35.67</b>	<b>34.64</b>
<b>Interest</b>	1.78	3.98	4.82	4.68
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Pro-rata Interest</b>	0.45	3.98	4.82	4.68

(₹ in lakh)

Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00	0.00
Receivables	11.89	26.49	32.71	31.77
<b>Total</b>	<b>11.89</b>	<b>26.49</b>	<b>32.71</b>	<b>31.77</b>



Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
<b>Interest</b>	1.60	3.58	4.42	4.29
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Pro-rata Interest</b>	0.26	3.58	4.42	4.29

(₹ in lakh)

Asset-III			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00
Receivables	44.96	46.40	46.88
<b>Total</b>	<b>44.96</b>	<b>46.40</b>	<b>46.88</b>
<b>Interest</b>	5.75	5.94	6.00
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	2.40	5.94	6.00

(₹ in lakh)

Asset-IV			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00
Receivables	45.22	46.69	47.17
<b>Total</b>	<b>45.22</b>	<b>46.69</b>	<b>47.17</b>
<b>Interest</b>	5.79	5.98	6.04
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	1.93	5.98	6.04

(₹ in lakh)

Asset-V			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00
Receivables	24.90	45.53	48.97
<b>Total</b>	<b>24.90</b>	<b>45.53</b>	<b>48.97</b>
<b>Interest</b>	3.19	5.83	6.27
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	3.17	5.83	6.27



(₹ in lakh)

Asset-VI			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00
Receivables	47.91	49.75	50.53
<b>Total</b>	<b>47.91</b>	<b>49.75</b>	<b>50.53</b>
<b>Interest</b>	6.13	6.37	6.47
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	3.07	6.37	6.47

(₹ in lakh)

Asset-VII			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00
Receivables	35.65	45.42	52.06
<b>Total</b>	<b>35.65</b>	<b>45.42</b>	<b>52.06</b>
<b>Interest</b>	4.56	5.81	6.66
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	2.28	5.81	6.66

(₹ in lakh)

Asset-VIII				
Particulars	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M Expenses	0.00	0.00	0.00	0.00
Receivables	17.27	23.47	29.50	29.97
<b>Total</b>	<b>17.27</b>	<b>23.47</b>	<b>29.50</b>	<b>29.97</b>
<b>Interest</b>	2.33	3.17	3.98	4.05
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Pro-rata Interest</b>	0.20	3.17	3.98	4.05

(₹ in lakh)

Asset-IX			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	8.25	8.53	8.81
O & M Expenses	4.58	4.74	4.89
Receivables	84.88	108.44	114.75



Asset-IX			
Particulars	2016-17	2017-18	2018-19
<b>Total</b>	<b>97.71</b>	<b>121.71</b>	<b>128.45</b>
<b>Interest</b>	12.51	15.58	16.44
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	6.29	15.58	16.44

(₹ in lakh)

Asset-X			
Particulars	2016-17	2017-18	2018-19
Maintenance Spares	15.01	15.51	16.02
O & M Expenses	8.34	8.62	8.90
Receivables	159.97	175.37	174.88
<b>Total</b>	<b>183.32</b>	<b>199.50</b>	<b>199.80</b>
<b>Interest</b>	23.47	25.54	25.57
Rate of Interest (%)	12.80	12.80	12.80
<b>Pro-rata Interest</b>	11.80	25.54	25.57

6. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 11.7.2016. None of the respondents have filed their reply. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition. The petitioner has submitted the single line diagram of the instant assets vide affidavit dated 13.4.2016.



7. The petitioner in its original petition had submitted the tariff forms for the assets on the basis of anticipated COD except for Asset I and II. The petitioner was directed to submit Auditor's Certificate and revised tariff forms for the assets on the basis of the actual COD. Further, the petitioner was directed to submit the RLDC certificates in support of trial operation for the assets which have achieved their commercial operation. In response, the petitioner vide affidavit dated 10.8.2016 has submitted the current status of the assets, actual COD of asset I, II, V and VIII, revised tariff forms along with Auditor's Certificates for all the Assets. The petitioner, vide affidavit dated 10.8.2016, has also submitted the RLDC certificates and CEA certificates in case of the commissioned assets.

8. 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 27.6.2016.

#### **Commercial Operation Date ("COD")**

9. The petitioner has claimed the actual date of the commercial operation as 1.1.2016, 2.2.2016, 3.4.2016 and 29.2.2016 for Asset-I, II, V and VIII respectively. Assets- III, IV, VI, VII, IX and X are anticipated to be commissioned by 20.10.2016. 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”

10. The petitioner vide its affidavit dated 10.8.2016 has submitted the RLDC Certificate dated 10.8.2016, 25.4.2016, 13.4.2016 and 27.10.2014 in respect of Assets I, II, V and VIII respectively, issued by Eastern Regional Load Dispatch Centre (ERLDC) in support of the claim of commercial operation indicating completion of successful trial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations. The petitioner has also submitted the certificate issued by CEA dated 28.12.201, 29.1.2016, 28.3.2016 and 29.9.2014 regarding approval of energizing electrical installation (under Regulation 43) by Regional Inspectorial Organization (East) for Asset-I, II, V and VIII respectively. The petitioner has complied with the requirements of the 2014 Tariff Regulations regarding the date of commercial operation date for the instant assets. Hence, the COD of the transmission asset has been considered as 1.1.2016, 2.2.2016, 3.4.2016 and 29.2.2016 for Asset-I, II, V and VIII, respectively.

11. It is observed that there is a difference in the actual COD submitted by the petitioner and the COD mentioned in RLDC certificate in case of Asset-VIII. In this regard, the petitioner vide its affidavit dated 10.8.2016 submitted that in respect of commissioning of the ICT-III at Purnea (COD 29.2.2016), keeping the view the load requirement at Purnea, BSPHCL, has raised the issue in 25<sup>th</sup>



ERPC meeting for up-gradation of 100 MVA ICT at Purnea with 160 MVA spare ICT. 25<sup>th</sup> ERPC meeting had approved replacement of 100MVA, 220/132 kV ICT-III of Purnea Sub-station with 160MVA, 220/132kV ICT. Keeping in view the load requirement, BSTPCL had requested the petitioner for early replacement of the ICT with 160 MVA spare ICT of Eastern Region available at Purnea Sub-station. The 160 MVA ICT after procurement will be kept as spare at Purnea Sub-station. Accordingly, the petitioner has commissioned 160 MVA ICT which was already spare under some other project as Purnea Sub-station but it was not declared for commercial operation at that time. However, RLDC certificate was obtained from ERLDC on dated 27.10.2014 (successful charging date 1.10.2014). Subsequently, 160MVA ICT was procured under the instant project and declared under commercial operation with effect from 29.2.2016 at Purnea Sub-station at ICT-III.

12. The tariff has been worked out from COD to 31.3.2019 in accordance with the 2014 Tariff Regulations as discussed in subsequent paragraphs.

### **Capital Cost**

13. The petitioner has claimed capital cost of ₹126.89 lakh, ₹137.19 lakh, ₹202.13 lakh and ₹544.20 lakh for Asset-I, II, V and VIII respectively as on COD after adjusting the undischarged IDC. The capital cost as on COD also includes the cost of IDC, IEDC and initial spares. Similarly, the petitioner has claimed capital cost of ₹1543.64 lakh, ₹1550.89 lakh, ₹1637.84 lakh, ₹1053.76 lakh,



₹2005.45 lakh and ₹4381.52 lakh for the Assets III, IV, VI, VII, IX and X respectively as on anticipated COD.

14. 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) capitalized 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.”





15. The details of apportioned approved cost as per investment approval, capital cost as on date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the instant asset covered in the petition are as under:-

**(₹ in lakh)**

Particulars	Approved apportioned cost	Capital cost as on COD	Additional capitalization				Total additional capitalization	Total estimated completion cost
			2015-16	2016-17	2017-18	2018-19		
Asset-I	983.57	126.89	629.14	472.93	0.00	0.00	<b>1102.07</b>	<b>1228.96</b>
Asset-II	1157.05	137.19	521.49	468.73	0.00	0.00	<b>990.22</b>	<b>1127.41</b>
Asset-III	2028.96	1543.64	0.00	79.50	79.50	39.75	<b>198.75</b>	<b>1742.39</b>
Asset-IV	2028.96	1550.89	0.00	79.50	79.50	39.75	<b>198.75</b>	<b>1749.64</b>
Asset-V	2055.72	202.13	0.00	1288.31	160.66	160.66	<b>1609.63</b>	<b>1811.76</b>
Asset-VI	2055.72	1637.84	0.00	97.62	97.62	48.81	<b>244.05</b>	<b>1881.89</b>
Asset-VII	2044.63	1053.76	0.00	365.73	365.73	182.86	<b>914.32</b>	<b>1968.08</b>
Asset-VIII	996.94	544.20	73.96	365.90	88.71	0.00	<b>528.57</b>	<b>1072.77</b>
Asset-IX	2864.31	2005.45	0.00	1100.00	595.29	0.00	<b>1695.29</b>	<b>3700.74</b>
Asset-X	4974.17	4381.52	0.00	1000.00	220.46	0.00	<b>1220.46</b>	<b>5601.98</b>

### **Time over-run**

16. As per the investment approval dated 19.5.2014, the commissioning schedule of the project was 30 months from the date of investment approval. Accordingly, the scheduled date of commercial operation works out to 19.11.2016. Assets-I, II, V and VIII were commissioned on 1.1.2016, 2.2.2016, 3.4.2016 and 29.2.2016 respectively and Assets III, IV, VI, VII, IX and X are anticipated to be commissioned by 1.11.2016, 1.12.2016, 1.10.2016, 1.10.2016, 30.9.2016 and 30.9.2016 for respectively. There is no time over-run in case of Assets-I, II, V and VIII and all the other assets except for Asset IV are anticipated to be commissioned within 30 months from the date of Investment Approval. The



time over-run, if any, in case of the other assets would be considered at the time of truing up. The petitioner is directed to submit actual COD of the assets, RLDC certificates and the justification for time over-run, if any, alongwith the documentary evidence in chronological order at the time of truing up.

### **Cost Over-run**

17. The petitioner has submitted approved apportioned cost and estimated cost as on 31.3.2019 for the assets covered in the petition. The details are as given below:-

(₹ in lakh)

Asset	COD	Apportioned cost as per FR as submitted in original petition	Estimated completion cost an on 31.3.2019
Asset-I	1.1.2016	983.57	1228.96
Asset-II	2.2.2016	1157.05	1127.41
Asset-III	1.11.2016	2028.96	1742.39
Asset-IV	1.12.2016	2028.96	1749.64
Asset-V	3.4.2016	2055.72	1811.76
Asset-VI	1.10.2016	2055.72	1881.89
Asset-VII	1.10.2016	2044.63	1968.08
Asset-VIII	29.2.2016	996.94	1072.77
Asset-IX	30.9.2016	2864.31	3700.74
Asset-X	30.9.2016	4974.17	5601.98

18. The estimated completion cost in case of Asset – I, VIII, IX and X exceeds the approved apportioned cost, hence there is cost over-run in case of these assets. The petitioner was directed vide letter dated 12.7.2016 to submit the reasons for cost over-run in case of Asset-I, VIII, IX and X. The petitioner in its reply, vide affidavit dated 10.8.2016 has submitted that only about 10 to 15% portion of the project is actually commissioned.



19. The petitioner has further submitted that the variation in cost is mainly due to the price of the items in the FR cost were on estimated basis based on the average of previous contracts at February, 2014 price level. The contracts were awarded to the lowest evaluated and responsive bidder, on the basis of Open Competitive Bidding. Thus, the award prices represent the lowest prices available at the time of bidding of various packages depending upon prevailing market conditions.

20. We have considered the submissions of the petitioner. It is observed that the completion cost as submitted by the petitioner for the Asset-I, VIII, IX and X is exceeding the approved apportioned cost and detailed justification for the same is note provided by the petitioner. Hence, we have restricted the cost of the assets to the approved apportioned FR cost and the same will be reviewed at the time of truing up on submission of justification for the cost over-run.

**Initial spares:**

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

- “(a) Coal-based/lignite-fired thermal generating stations - 4.0%
- (b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%
- (c) Hydro generating stations including pumped storage hydro generating station-4.0%
- (d) Transmission system
  - (i) Transmission line - 1.00%
  - (ii) Transmission Sub-station (Green Field) - 4.00%
  - (iii) Transmission Sub-station (Brown Field) - 6.00%
  - (iv) Series Compensation devices and HVDC Station - 4.00%
  - (v) Gas Insulated Sub-station (GIS) - 5.00%



(vi) Communication system

- 3.5%”

22. The petitioner has claimed initial spares for the assets as given in table below.

**(₹ in lakh)**

Description	Plant & Machinery Cost as on cut-off date based on Auditor's Certificate (a)	Initial spares claimed (b)
Asset-I	1217.03	29.36
Asset-II	1127.41	16.13
Asset-III	1655.39	97.15
Asset-IV	1665.39	97.15
Asset-V	1793.78	104.65
Asset-VI	1793.76	104.65
Asset-VII	1888.05	111.00
Asset-VIII	1053.16	60.01
Asset-IX	3628.19	278.00
Asset-X	5468.94	285.64

23. The petitioner was directed to clarify, vide letter dated 12.7.2016, whether the entire liability pertaining to initial spares has been discharged upto COD, if not, year wise details for discharging the same. In this regard the petitioner, vide its affidavit dated 10.8.2016, has submitted the details of initial spares discharged as on COD and after COD in case of the assets commissioned. **In case of assets which are not yet commissioned, the initial spares have been considered to be discharged as on COD, however, the same shall be reviewed at the time of truing up on the basis of actuals.** The initial spares calculated and allowed in this order is given under:-



(₹ in lakh)

Asset	Plant & Machinery cost as on "cut-off" date (a)	Proportionate initial spares claimed (b)	Expenditure on initial spares upto COD and included in auditor certificate upto COD	Estimated expenditure on initial spares in 2016-17 (Add-cap)	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation (c)	Ceiling limit of initial spares (d)	Excess initial spares	Initial spares allowed Min [(b) - (d)]
Asset-I	*974.02	23.49	21.14	2.35	6.00%	61.28	0.00	
Asset-II	1119.65	16.13	14.52	1.61	6.00%	70.44	0.00	
Asset-III	1655.39	97.15	97.15	0.00	6.00%	99.46	0.00	
Asset-IV	1665.39	97.15	97.15	0.00	6.00%	99.46	0.00	
Asset-V	1793.78	104.65	0.00	104.65	6.00%	107.82	0.00	
Asset-VI	1793.76	104.65	104.65	0.00	6.00%	107.82	0.00	
Asset-VII	1888.05	111.00	111.00	111.00	6.00%	113.43	0.00	
Asset-VIII	*978.72	55.77	58.91	0.00	6.00%	58.91	3.14	
Asset-IX	*2808.16	215.16	136.47	0.00	5.00%	136.47	78.69	
Asset-X	*4856.04	253.62	242.23	0.00	5.00%	242.23	11.39	

\*Initial spares restricted to FR cost due to absence of RCE.

24. The initial spares claimed by the petitioner is within the ceiling limit in case of all the assets except Assets-VIII, IX and X, the initial spares exceeds the ceiling limit and hence the excess initial spares have been deducted from the capital cost. **The initial spares discharged after COD have also been deducted from the capital cost and added to the additional capitalization during 2016-17.**

### **IDC and IEDC**

25. The petitioner has submitted the IDC and IEDC on cash basis upto COD in case of Assets-I, II, V and VIII and in case of other assets, which are not yet commissioned, the IDC and IEDC is on accrual basis as per Auditor's Certificate.

26. The petitioner, vide affidavit dated 10.8.2016, has submitted the details of accrued IDC which is expected to be discharged during 2015-16, 2016-17 and



2017-18. The petitioner also submitted that entire IEDC has been discharged as on COD for the said assets. Accordingly, the IDC yet to be discharged has been deducted from the capital cost as on COD and the same has been considered as part of additional capitalization in addition to the additional capitalization submitted as per the Auditor Certificate dated 4.8.2016 in case of all the Assets as shown below:-

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV	Asset-V
Capital cost as on COD as per Auditor's Certificate	129.16	140.37	1543.64	1550.89	205.17
Less: Accrued IDC to be discharged after COD	2.27	3.18	0.00	0.00	3.04
Less: Initial spares discharged after COD	2.35	1.61	0.00	0.00	104.65
<b>Capital cost considered as on COD</b>	<b>124.54</b>	<b>135.58</b>	<b>1543.64</b>	<b>1550.89</b>	<b>97.48</b>

(₹ in lakh)

Particulars	Asset-VI	Asset-VII	Asset-VIII	Asset-IX	Asset-X
Capital cost as on COD as per Auditor's Certificate	1637.84	1053.76	556.54	2005.45	4381.52
Less: Accrual IDC to be discharged after COD	0.00	0.00	12.34	0.00	0.00
Less: Initial spares discharged after COD	0.00	0.00	55.63	0.00	0.00
Less: Excess initial spares	0.00	0.00	3.14	78.69	11.39
<b>Capital cost considered as on COD</b>	<b>1637.84</b>	<b>1053.76</b>	<b>485.43</b>	<b>1926.76</b>	<b>4370.13</b>

### **Additional Capital Expenditure**

27. The petitioner has proposed additional capital expenditure for the assets during tariff period 2015-19, towards balance and retention payments under Regulation 14(1)(i) of the 2014 Tariff Regulation. The petitioner has claimed additional capitalization including the IDC not discharged as on COD which is



projected to be discharged during 2015-16, 2016-17, and 2017-18 and the initial spares projected to be discharged during 2016-17.

28. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” 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.”

29. The cut-off date for the Assets- I, II and VIII works out to be 31.3.2018 and for Assets- III, IV, V, VI, VII, IX and X works out to be 31.3.2019. The additional capitalization claimed by the petitioner is within the cut-off date. The additional capitalization for 2015-16, 2016-17 is allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations. The details of additional capitalization allowed is as follows:-

(₹ in lakh)					
Cost as per Investment Approval is ₹983.57 lakh					
Asset	Capital cost as on COD	Additional capitalisation projected		Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2015-16	2016-17		
As claimed	126.89 (129.16-2.27*)	629.14	472.93 (470.66+2.27)	1102.07	1228.96
Approved in this order	124.54 (126.89-2.35#)	629.14	229.89(472.93- 245.39^ +2.35#)	859.03	983.57

\*Accrual IDC adjusted

# Adjustment of Initial spares discharge during 2016-17 add-cap

^ Restricted cost due to absence of RCE



(₹ in lakh)

Cost as per Investment Approval is ₹1157.05 lakh					
Asset II	Capital cost as on COD	Additional capitalisation projected		Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2015-16	2016-17		
As claimed	137.19 (140.37-3.18)	521.49	468.73 (465.55+3.18)	990.22	1127.41
Approved in this order	135.58 (140.37-3.18*-1.61#)	521.49	470.34 (465.55+3.18*+1.61#)	991.83	1127.41

\*Accrual IDC adjusted

# Adjustment of initial spares discharged during 2016-17 add-cap

(₹ in lakh)

Cost as per Investment Approval is ₹2028.96 lakh						
Asset III	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
As claimed	1543.64	79.50	79.50	39.75	198.75	1742.39
Approved in this order	1543.64	79.50	79.50	39.75	198.75	1742.39

(₹ in lakh)

Cost as per Investment Approval is ₹2028.96 lakh						
Asset IV	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
As claimed	1550.89	79.50	79.50	39.75	198.75	1749.64
Approved in this order	1550.89	79.50	79.50	39.75	198.75	1749.64





(₹ in lakh)

Cost as per Investment Approval is ₹2055.72 lakh						
Asset V	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
As claimed	202.13 (205.17-3.04)	1288.31 (1285.27+3.04)	160.66	160.66	1609.63	1811.76
Approved in this order	97.48 (205.17-3.04*-104.65#)	1392.96 (1285.27+3.04*+104.65#)	160.66	160.66	1714.28	1811.76

\*Accrual IDC Adjusted

#Adjustment of Initial spares discharged during 2016-17 add-cap

(₹ in lakh)

Cost as per Investment Approval is ₹2055.72 lakh						
Asset VI	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
As claimed	1637.84	97.62	97.62	48.81	244.05	1881.89
Approved in this order	1637.84	97.62	97.62	48.81	244.05	1881.89

(₹ in lakh)

Cost as per Investment Approval is ₹2044.63 lakh						
Asset VII	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18	2018-19		
As claimed	1053.76	365.73	365.73	182.86	914.32	1968.08
Approved in this order	1053.76	365.73	365.73	182.86	914.32	1968.08



(₹ in lakh)

Cost as per Investment Approval is ₹996.94 lakh						
Asset VIII	Capital cost as on COD	Additional capitalisation projected			Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2015-16	2016-17	2017-18		
As claimed	544.20 (556.54-12.34)	73.96 (72.67+1.29)	365.90 (354.85+11.05)	88.71	528.57	1072.77
Approved in this order	485.43 (556.54-12.34*-55.63-3.14#)	73.96 (72.67+1.29*)	421.53 (354.85+11.05*+55.63#)	16.02 (88.71-75.83^+3.14#)	511.51	996.94

\*Accrual IDC adjusted

# Adjustment of Initial spares discharged during 2016-17 Add-cap

^ Restricted cost due to absence of RCE

(₹ in lakh)

Cost as per Investment Approval is ₹2864.31 lakh					
Asset IX	Capital cost as on COD	Additional capitalisation projected		Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18		
As Claimed	2005.45	1100.00	595.29	1695.29	3700.74
Approved in this order	1926.76 (2005.45-78.69#)	937.55 (1100.00-162.45^)	0.00	937.55	2864.31

# Adjustment of excess Initial spares

^ Restricted cost due to absence of RCE

(₹ in lakh)

Cost as per Investment Approval is ₹4974.17 lakh					
Asset X	Capital cost as on COD	Additional capitalisation projected		Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18		
As Claimed	4381.52	1000.00	220.46	1220.46	5601.98



Cost as per Investment Approval is ₹4974.17 lakh					
Asset X	Capital cost as on COD	Additional capitalisation projected		Total additional capitalization	Total capital cost including additional capitalisation as on 31.3.2019
		2016-17	2017-18		
Approved in this order	4370.13 (4381.52-11.39#)	604.04 (1000.00-395.96^)	0.00	604.04	4974.17

# Adjustment of excess initial spares

^ Restricted cost due to absence of RCE

### **Debt:Equity Ratio**

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

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

Provided that:

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

31. The petitioner has considered debt:equity ratio as 70:30 as on COD and for additional capitalisation post COD. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2015-16, 2016-17, 2017-18 and 2018-19. The details of the debt:equity as on the date of COD and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-



(₹ in lakh)

Asset-I	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	87.18	70.00	601.33	70.00	688.50	70.00
Equity	37.36	30.00	257.71	30.00	295.07	30.00
<b>Total</b>	<b>124.54</b>	<b>100.00</b>	<b>859.03</b>	<b>100.00</b>	<b>983.57</b>	<b>100.00</b>

(₹ in lakh)

Asset-II	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	94.91	70.00	694.28	70.00	789.19	70.00
Equity	40.67	30.00	297.55	30.00	338.22	30.00
<b>Total</b>	<b>135.58</b>	<b>100.00</b>	<b>991.83</b>	<b>100.00</b>	<b>1127.41</b>	<b>100.00</b>

(₹ in lakh)

Asset-III	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	1080.55	70.00	139.13	70.00	1219.67	70.00
Equity	463.09	30.00	59.63	30.00	522.72	30.00
<b>Total</b>	<b>1543.64</b>	<b>100.00</b>	<b>198.75</b>	<b>100.00</b>	<b>1742.39</b>	<b>100.00</b>

(₹ in lakh)

Asset-IV	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	1085.62	70.00	139.13	70.00	1224.75	70.00
Equity	465.27	30.00	59.62	30.00	524.89	30.00
<b>Total</b>	<b>1550.89</b>	<b>100.00</b>	<b>198.75</b>	<b>100.00</b>	<b>1749.64</b>	<b>100.00</b>

(₹ in lakh)

Asset-V	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	68.24	70.00	1200.00	70.00	1268.23	70.00
Equity	29.24	30.00	514.28	30.00	543.53	30.00
<b>Total</b>	<b>97.48</b>	<b>100.00</b>	<b>1714.28</b>	<b>100.00</b>	<b>1811.76</b>	<b>100.00</b>



(₹ in lakh)

Asset- VI	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	1146.49	70.00	170.84	70.00	1317.32	70.00
Equity	491.35	30.00	73.22	30.00	564.57	30.00
<b>Total</b>	<b>1637.84</b>	<b>100.00</b>	<b>244.05</b>	<b>100.00</b>	<b>1881.89</b>	<b>100.00</b>

(₹ in lakh)

Asset-VII	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	737.63	70.00	640.02	70.00	1377.66	70.00
Equity	316.13	30.00	274.30	30.00	590.42	30.00
<b>Total</b>	<b>1053.76</b>	<b>100.00</b>	<b>914.32</b>	<b>100.00</b>	<b>1968.08</b>	<b>100.00</b>

(₹ in lakh)

Asset-VIII	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	339.80	70.00	358.06	70.00	697.86	70.00
Equity	145.63	30.00	153.45	30.00	299.08	30.00
<b>Total</b>	<b>485.43</b>	<b>100.00</b>	<b>511.51</b>	<b>100.00</b>	<b>996.94</b>	<b>100.00</b>

(₹ in lakh)

Asset-IX	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	1348.73	70.00	656.28	70.00	2005.02	70.00
Equity	578.03	30.00	281.26	30.00	859.29	30.00
<b>Total</b>	<b>1926.76</b>	<b>100.00</b>	<b>937.55</b>	<b>100.00</b>	<b>2864.31</b>	<b>100.00</b>

(₹ in lakh)

Asset-X	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	3059.09	70.00	422.83	70.00	3481.92	70.00
Equity	1311.04	30.00	181.21	30.00	1492.25	30.00
<b>Total</b>	<b>4370.13</b>	<b>100.00</b>	<b>604.04</b>	<b>100.00</b>	<b>4974.17</b>	<b>100.00</b>



### Interest on Loan (“IOL”)

32. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations provides as under:-

“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2015 for Asset I, II and VIII and for Asset-III, IV, V, VI, VII, IX and X we have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2016. 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 2015-19 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 2015-19 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-1** for the assets covered in the instant petition and the IOL has been worked out as follows:-



(₹ in lakh)

Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	87.18	527.58	688.50	688.50
Cumulative Repayment up to previous year	0.00	5.76	51.63	103.56
Net Loan-Opening	87.18	521.81	636.87	584.94
Additions during the year	440.40	160.93	0.00	0.00
Repayment during the year	5.76	45.86	51.93	51.93
Net Loan-Closing	521.81	636.87	584.94	533.01
Average Loan	304.49	579.34	610.91	558.98
Rate of Interest (%)	9.2195	9.3570	9.3570	9.3570
<b>Interest</b>	<b>6.98</b>	<b>54.21</b>	<b>57.16</b>	<b>52.30</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	94.91	459.95	789.19	789.19
Cumulative Repayment up to previous year	0.00	3.37	50.48	110.01
Net Loan-Opening	94.91	456.58	738.70	679.18
Additions during the year	365.04	329.24	0.00	0.00
Repayment during the year	3.37	47.11	59.53	59.53
Net Loan-Closing	456.58	738.70	679.18	619.65
<b>Average Loan</b>	<b>275.74</b>	<b>597.64</b>	<b>708.94</b>	<b>649.41</b>
Rate of Interest (%)	9.1535	9.3105	9.3105	9.3105
<b>Interest</b>	<b>4.07</b>	<b>55.64</b>	<b>66.01</b>	<b>60.46</b>

(₹ in lakh)

Asset-III			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	1080.55	1136.20	1191.85
Cumulative Repayment up to previous year	0.00	34.59	122.39
Net Loan-Opening	1080.55	1101.61	1069.46



Asset-III			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Additions during the year	55.65	55.65	27.83
Repayment during the year	34.59	87.80	90.95
Net Loan-Closing	1101.61	1069.46	1006.34
Average Loan	1091.08	1085.54	1037.90
Rate of Interest (%)	7.9984	7.9984	7.9984
<b>Interest</b>	<b>36.10</b>	<b>86.83</b>	<b>83.02</b>

(₹ in lakh)

Asset-IV			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	1085.62	1141.27	1196.92
Cumulative Repayment up to previous year	0.00	27.84	116.03
Net Loan-Opening	1085.62	1113.43	1080.90
Additions during the year	55.65	55.65	27.83
Repayment during the year	27.84	88.18	91.33
Net Loan-Closing	1113.43	1080.90	1017.39
Average Loan	1099.53	1097.16	1049.14
Rate of Interest (%)	7.9983	7.9983	7.9983
<b>Interest</b>	<b>29.07</b>	<b>87.75</b>	<b>83.91</b>

(₹ in lakh)

Asset-V			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	68.24	1043.31	1155.77
Cumulative Repayment up to previous year	0.00	41.69	124.63
Net Loan-Opening	68.24	1001.62	1031.14
Additions during the year	975.07	112.46	112.46
Repayment during the year	41.69	82.94	91.42
Net Loan-Closing	1001.62	1031.14	1052.18
Average Loan	534.93	1016.38	1041.66
Rate of Interest (%)	9.0737	9.0737	9.0737
<b>Interest</b>	<b>48.14</b>	<b>92.22</b>	<b>94.52</b>





(₹ in lakh)

Asset-VI			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	1146.49	1214.82	1283.16
Cumulative Repayment up to previous year	0.00	44.41	138.62
Net Loan-Opening	1146.49	1170.42	1144.54
Additions during the year	68.33	68.33	34.17
Repayment during the year	44.41	94.21	98.08
Net Loan-Closing	1170.42	1144.54	1080.63
Average Loan	1158.45	1157.48	1112.59
Rate of Interest (%)	8.0295	8.0295	8.0295
<b>Interest</b>	<b>46.38</b>	<b>92.94</b>	<b>89.34</b>

(₹ in lakh)

Asset-VII			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	737.63	993.64	1249.65
Cumulative Repayment up to previous year	0.00	32.56	117.16
Net Loan-Opening	737.63	961.09	1132.49
Additions during the year	256.01	256.01	128.00
Repayment during the year	32.56	84.60	99.09
Net Loan-Closing	961.09	1132.49	1161.41
Average Loan	849.36	1046.79	1146.95
Rate of Interest (%)	8.3905	8.3905	8.3905
<b>Interest</b>	<b>35.44</b>	<b>87.83</b>	<b>96.23</b>

(₹ in lakh)

Asset-VIII				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	339.80	391.57	686.64	697.86
Cumulative Repayment up to previous year	0.00	2.68	43.35	95.56
Net Loan-Opening	339.80	388.89	643.30	602.30



Asset-VIII				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Additions during the year	51.77	295.07	11.22	0.00
Repayment during the year	2.68	40.66	52.22	52.64
Net Loan-Closing	388.89	643.30	602.30	549.66
Average Loan	364.34	516.09	622.80	575.98
Rate of Interest (%)	8.9485	8.9844	8.9844	8.9844
<b>Interest</b>	<b>2.86</b>	<b>46.37</b>	<b>55.95</b>	<b>51.75</b>

(₹ in lakh)

Asset-IX			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	1348.73	2005.02	2005.02
Cumulative Repayment up to previous year	0.00	63.42	214.65
Net Loan-Opening	1348.73	1941.60	1790.37
Additions during the year	656.28	0.00	0.00
Repayment during the year	63.42	151.24	151.24
Net Loan-Closing	1941.60	1790.37	1639.13
Average Loan	1645.17	1865.98	1714.75
Rate of Interest (%)	8.9165	8.9165	8.9165
<b>Interest</b>	<b>73.55</b>	<b>166.38</b>	<b>152.90</b>

(₹ in lakh)

Asset-X			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross loan opening	3059.09	3481.92	3481.92
Cumulative Repayment up to previous year	0.00	123.68	386.32
Net Loan-Opening	3059.09	3358.24	3095.60
Additions during the year	422.83	0.00	0.00
Repayment during the year	123.68	262.64	262.64
Net Loan-Closing	3358.24	3095.60	2832.97
Average Loan	3208.67	3226.92	2964.28
Rate of Interest (%)	8.6912	8.6912	8.6912
<b>Interest</b>	<b>139.82</b>	<b>280.46</b>	<b>257.63</b>



## **Return on Equity (“ROE”)**

33. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

**“24. Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

i. in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I:**”

**“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.”

34. The petitioner has submitted grossed up ROE at the rate of 19.610% after grossing up the ROE of 15.50% with MAT rate as 20.961%. 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 2015-19 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.

35. 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.

36. 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 grossed up ROE considered for computation of tariff is 19.610%. Hence, the ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)				
Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	37.36	226.10	295.07	295.07
Additional Capitalization	188.74	68.97	0.00	0.00
Closing Equity	226.10	295.07	295.07	295.07



Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Average Equity	131.73	260.58	295.07	295.07
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>6.42</b>	<b>51.10</b>	<b>57.86</b>	<b>57.86</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	40.67	197.12	338.22	338.22
Additional Capitalization	156.45	141.10	0.00	0.00
Closing Equity	197.12	338.22	338.22	338.22
Average Equity	118.90	267.67	338.22	338.22
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>3.76</b>	<b>52.49</b>	<b>66.33</b>	<b>66.33</b>

(₹ in lakh)

Asset-III			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	463.09	486.94	510.79
Additional Capitalization	23.85	23.85	11.93
Closing Equity	486.94	510.79	522.72
Average Equity	475.02	498.87	516.75
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>38.54</b>	<b>97.83</b>	<b>101.34</b>



(₹ in lakh)

Asset-IV			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	465.27	489.12	512.97
Additional Capitalization	23.85	23.85	11.93
Closing Equity	489.12	512.97	524.89
Average Equity	477.19	501.04	518.93
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>30.94</b>	<b>98.25</b>	<b>101.76</b>

(₹ in lakh)

Asset-V			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	29.24	447.13	495.33
Additional Capitalization	417.89	48.20	48.20
Closing Equity	447.13	495.33	543.53
Average Equity	238.19	471.23	519.43
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>46.33</b>	<b>92.41</b>	<b>101.86</b>

(₹ in lakh)

Asset-VI			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	491.35	520.64	549.92
Additional Capitalization	29.29	29.29	14.64
Closing Equity	520.64	549.92	564.57
Average Equity	506.00	535.28	557.25
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610



Asset-VI			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
<b>Return on Equity (Pre Tax)</b>	<b>49.48</b>	<b>104.97</b>	<b>109.28</b>

(₹ in lakh)

Asset-VII			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	316.13	425.85	535.57
Additional Capitalization	109.72	109.72	54.86
Closing Equity	425.85	535.57	590.42
Average Equity	370.99	480.71	563.00
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>36.18</b>	<b>94.27</b>	<b>110.40</b>

(₹ in lakh)

Asset-VIII				
Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Opening Equity	145.63	167.82	294.28	299.08
Additional Capitalization	22.19	126.46	4.81	0.00
Closing Equity	167.82	294.28	299.08	299.08
Average Equity	156.72	231.05	296.68	299.08
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>2.69</b>	<b>45.31</b>	<b>58.18</b>	<b>58.65</b>

(₹ in lakh)

Asset-IX			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	578.03	859.29	859.29
Additional Capitalization	281.26	0.00	0.00
Closing Equity	859.29	859.29	859.29
Average Equity	718.66	859.29	859.29



Asset-IX			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>70.66</b>	<b>168.51</b>	<b>168.51</b>

(₹ in lakh)

Asset-X			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Equity	1311.04	1492.25	1492.25
Additional Capitalization	181.21	0.00	0.00
Closing Equity	1492.25	1492.25	1492.25
Average Equity	1401.64	1492.25	1492.25
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>137.81</b>	<b>292.63</b>	<b>292.63</b>

### **Depreciation**

37. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

#### **"27. Depreciation:**

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis"

"(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** to these regulations for the assets of the generating station and transmission system:





Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

38. 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”

39. The petitioner has claimed depreciation considering capital expenditure as on COD and additional capitalization for the assets covered.

40. We have considered the submissions of the petitioner and have computed depreciation considering capital expenditure as on COD and additional capitalization approved for 2015-16, 2016-17, 2017-18 and 2018-19. The weighted average useful life of the asset has been considered as 25 years for all the assets in accordance with the above regulation. The details of the depreciation allowed for the asset is given hereunder:-



(₹ in lakh)

Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross block	124.54	753.68	983.57	983.57
Additional Capitalization	629.14	229.89	0.00	0.00
Closing Gross block	753.68	983.57	983.57	983.57
Average Gross block	439.11	868.62	983.57	983.57
Rate of Depreciation (%)	5.280	5.280	5.280	5.280
Depreciable Value	395.20	781.76	885.21	885.21
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	395.20	776.00	833.59	781.65
<b>Depreciation</b>	<b>5.76</b>	<b>45.86</b>	<b>51.93</b>	<b>51.93</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross block	135.58	657.07	1127.41	1127.41
Additional Capitalization	521.49	470.34	0.00	0.00
Closing Gross block	657.07	1127.41	1127.41	1127.41
Average Gross block	396.33	892.24	1127.41	1127.41
Rate of Depreciation (%)	5.280	5.280	5.280	5.280
Depreciable Value	356.69	803.02	1014.67	1014.67
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	356.69	799.64	964.19	904.66
<b>Depreciation</b>	<b>3.37</b>	<b>47.11</b>	<b>59.53</b>	<b>59.53</b>

(₹ in lakh)

Asset-III			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	1543.64	1623.14	1702.64
Additional Capitalization	79.50	79.50	39.75



Asset-III			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Closing Gross block	1623.14	1702.64	1742.39
Average Gross block	1583.39	1662.89	1722.52
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	1425.05	1496.60	1550.26
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1425.05	1462.01	1427.88
<b>Depreciation</b>	<b>34.59</b>	<b>87.80</b>	<b>90.95</b>

(₹ in lakh)

Asset-IV			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	1550.89	1630.39	1709.89
Additional Capitalization	79.50	79.50	39.75
Closing Gross block	1630.39	1709.89	1749.64
Average Gross block	1590.64	1670.14	1729.77
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	1431.58	1503.13	1556.79
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1431.58	1475.28	1440.76
<b>Depreciation</b>	<b>27.84</b>	<b>88.18</b>	<b>91.33</b>

(₹ in lakh)

Asset-V			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	97.48	1490.44	1651.10
Additional Capitalization	1392.96	160.66	160.66
Closing Gross block	1490.44	1651.10	1811.76
Average Gross block	793.96	1570.77	1731.43



Asset-V			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	714.56	1413.69	1558.29
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	714.56	1372.00	1433.66
<b>Depreciation</b>	<b>41.69</b>	<b>82.94</b>	<b>91.42</b>

(₹ in lakh)

Asset-VI			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	1637.84	1735.46	1833.08
Additional Capitalization	97.62	97.62	48.81
Closing Gross block	1735.46	1833.08	1881.89
Average Gross block	1686.65	1784.27	1857.49
Rate of Depreciation (%)	5.28%	5.28%	5.28%
Depreciable Value	1517.99	1605.84	1671.74
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1517.99	1561.44	1533.12
<b>Depreciation</b>	<b>44.41</b>	<b>94.21</b>	<b>98.08</b>

(₹ in lakh)

Asset-VII			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	1053.76	1419.49	1785.22
Additional Capitalization	365.73	365.73	182.86
Closing Gross block	1419.49	1785.22	1968.08
Average Gross block	1236.63	1602.36	1876.65
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	1112.96	1442.12	1688.99



Asset-VII			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1112.96	1409.56	1571.82
<b>Depreciation</b>	<b>32.56</b>	<b>84.60</b>	<b>99.09</b>

(₹ in lakh)

Asset-VIII				
Particulars	2015-16 (Pro-Rata)	2016-17	2017-18	2018-19
Opening Gross block	485.43	559.39	980.92	996.94
Additional Capitalization	73.96	421.53	16.02	0.00
Closing Gross block	559.39	980.92	996.94	996.94
Average Gross block	522.41	770.15	988.93	996.94
Rate of Depreciation (%)	5.280	5.280	5.280	5.280
Depreciable Value	470.17	693.14	890.04	897.25
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	470.17	690.73	846.96	801.95
<b>Depreciation</b>	<b>2.41</b>	<b>40.66</b>	<b>52.22</b>	<b>52.64</b>

(₹ in lakh)

Asset-IX			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	1926.76	2864.31	2864.31
Additional Capitalization	937.55	0.00	0.00
Closing Gross block	2864.31	2864.31	2864.31
Average Gross block	2395.54	2864.31	2864.31
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	2155.98	2577.88	2577.88
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23



Asset-IX			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Remaining Depreciable Value	2155.98	2514.46	2363.23
<b>Depreciation</b>	<b>63.42</b>	<b>151.24</b>	<b>151.24</b>

(₹ in lakh)

Asset-X			
Particulars	2016-17 (Pro-Rata)	2017-18	2018-19
Opening Gross block	4370.13	4974.17	4974.17
Additional Capitalization	604.04	0.00	0.00
Closing Gross block	4974.17	4974.17	4974.17
Average Gross block	4672.15	4974.17	4974.17
Rate of Depreciation (%)	5.280	5.280	5.280
Depreciable Value	4204.94	4476.75	4476.75
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	4204.94	4353.07	4090.43
<b>Depreciation</b>	<b>123.68</b>	<b>262.64</b>	<b>262.64</b>

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

41. The petitioner has not claimed any O&M expenses for Assets I to VIII, as there are no transmission lines and bays associated with Assets I to VIII. The petitioner has claimed O&M Expenses for Assets-IX and X as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations.

42. We have considered the petitioner’s submission. The petitioner’s entitlement of O&M Expenses for Assets-IX and X has been worked out as given hereunder:-



Particulars (Asset IX)	2016-17 (Pro-rata)	2017-18	2018-19
<b>Norm (₹ lakh/bay)</b>			
400 kV Bay GIS	55.02	56.84	58.73
<b>Number of bay</b>			
400 kV bay	1	1	1
<b>Total O&amp;M Expense (bay) (₹ in lakh)</b>	<b>27.59</b>	<b>56.84</b>	<b>58.73</b>

Particulars (Asset-X)	2016-17 (Pro-rata)	2017-18	2018-19
<b>Norm (₹ lakh/bay)</b>			
400 kV Bay	55.02	56.84	58.73
220 kV Bay	45.06	46.55	48.10
<b>Number of bay</b>			
400 kV bay	1	1	1
220 kV bay	1	1	1
<b>Total O&amp;M Expense (bay) (₹ in lakh)</b>	<b>50.18</b>	<b>103.39</b>	<b>106.83</b>

43. 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.

44. 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 in accordance with the appropriate provisions of the 2014 Tariff Regulations.



## **Interest on Working Capital (“IWC”)**

45. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

### **(i) Receivables**

As per Regulation 28(1) (c)(i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

### **(ii) Maintenance Spares**

Regulation 28(1)(c)(ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

### **(iii) O & M Expenses**

Regulation 28(1)(c)(iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the





instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

**(iv) Rate of interest on working capital**

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including sub-station, communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the Bank Rate' means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points) for Asset I, II and VIII and the rate of interest on working capital considered for Assets-III, IV, V, VI, VII, IX and X is 12.80% (SBI Base Rate of 9.30% plus 350 basis points).

46. The interest on working capital allowed for the asset is shown in the table below:-

(₹ in lakh)				
Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	3.27	25.78	28.47	27.64



Asset-I				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Total	<b>3.27</b>	<b>25.78</b>	<b>28.47</b>	<b>27.64</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	0.44	3.48	3.84	3.73

(₹ in lakh)

Asset-II				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	1.91	26.47	32.71	31.77
Total	<b>1.91</b>	<b>26.47</b>	<b>32.71</b>	<b>31.77</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>0.26</b>	<b>3.57</b>	<b>4.42</b>	<b>4.29</b>

(₹ in lakh)

Asset-III			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	18.60	46.40	46.88
Total	<b>18.60</b>	<b>46.40</b>	<b>46.88</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>2.38</b>	<b>5.94</b>	<b>6.00</b>

(₹ in lakh)

Asset-IV			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	14.96	46.69	47.17
Total	<b>14.96</b>	<b>46.69</b>	<b>47.17</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>1.92</b>	<b>5.98</b>	<b>6.04</b>



(₹ in lakh)

Asset-V			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	23.19	45.57	49.01
<b>Total</b>	<b>23.19</b>	<b>45.57</b>	<b>49.01</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>2.97</b>	<b>5.83</b>	<b>6.27</b>

(₹ in lakh)

Asset-VI			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	23.89	49.75	50.53
<b>Total</b>	<b>23.89</b>	<b>49.75</b>	<b>50.53</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>3.06</b>	<b>6.37</b>	<b>6.47</b>

(₹ in lakh)

Asset-VII			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	17.74	45.42	52.06
<b>Total</b>	<b>17.74</b>	<b>45.42</b>	<b>52.06</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>2.27</b>	<b>5.81</b>	<b>6.66</b>



(₹ in lakh)

Asset-VIII				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	1.36	22.57	28.37	27.80
<b>Total</b>	<b>1.36</b>	<b>22.57</b>	<b>28.37</b>	<b>27.80</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>0.18</b>	<b>3.05</b>	<b>3.83</b>	<b>3.75</b>

(₹ in lakh)

Asset-IX			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	4.14	8.53	8.81
O & M expenses	2.30	4.74	4.89
Receivables	40.20	92.76	90.79
<b>Total</b>	<b>46.63</b>	<b>106.02</b>	<b>104.49</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>5.97</b>	<b>13.57</b>	<b>13.38</b>

(₹ in lakh)

Asset-X			
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	7.53	15.51	16.02
O & M expenses	4.18	8.62	8.90
Receivables	77.14	160.46	157.17
<b>Total</b>	<b>88.85</b>	<b>184.58</b>	<b>182.10</b>
Rate of Interest (%)	12.80	12.80	12.80
<b>Interest</b>	<b>11.37</b>	<b>23.63</b>	<b>23.31</b>

### Annual Transmission Charges

47. The detailed computation of the various components of the annual fixed charges for the asset for the tariff period 2015-19 is summarised below:-



(₹ in lakh)

Asset-I				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
<b>Gross Block</b>				
Opening Gross Block	124.54	753.68	983.57	983.57
Additional Capitalisation	629.14	229.89	0.00	0.00
Closing Gross Block	753.68	983.57	983.57	983.57
Average Gross Block	439.11	868.62	983.57	983.57
Rate of Depreciation	5.280	5.280	5.280	5.280
Depreciable Value	395.20	781.76	885.21	885.21
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	395.20	776.00	833.59	781.65
<b>Depreciation</b>	5.76	45.86	51.93	51.93
<b>Interest on Loan</b>				
Gross Normative Loan	87.18	527.58	688.50	688.50
Cumulative Repayment upto Previous Year	0.00	5.76	51.63	103.56
Net Loan-Opening	87.18	521.81	636.87	584.94
Additions	440.40	160.93	0.00	0.00
Repayment during the year	5.76	45.86	51.93	51.93
Net Loan-Closing	521.81	636.87	584.94	533.01
Average Loan	304.49	579.34	610.91	558.98
Weighted Average Rate of Interest on Loan (%)	9.2195	9.3570	9.3570	9.3570
<b>Interest</b>	6.98	54.21	57.16	52.30
<b>Return on Equity</b>				
Opening Equity	37.36	226.10	295.07	295.07
Additions	188.74	68.97	0.00	0.00
Closing Equity	226.10	295.07	295.07	295.07
Average Equity	131.73	260.58	295.07	295.07
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	6.42	51.10	57.86	57.86
<b>Interest on Working Capital</b>				
Maintenance Spares	0.00	0.00	0.00	0.00



Asset-I				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
O & M expenses	0.00	0.00	0.00	0.00
Receivables	3.27	25.78	28.47	27.64
Total	3.27	25.78	28.47	27.64
<b>Interest</b>	0.44	3.48	3.84	3.73
<b>Annual Transmission Charges</b>				
Depreciation	5.76	45.86	51.93	51.93
Interest on Loan	6.98	54.21	57.16	52.30
Return on Equity	6.42	51.10	57.86	57.86
Interest on Working Capital	0.44	3.48	3.84	3.73
O & M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>19.61</b>	<b>154.65</b>	<b>170.80</b>	<b>165.83</b>

(₹ in lakh)

Asset-II				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
<b>Gross Block</b>				
Opening Gross Block	135.58	657.07	1127.41	1127.41
Additional Capitalisation	521.49	470.34	0.00	0.00
Closing Gross Block	657.07	1127.41	1127.41	1127.41
Average Gross Block	396.33	892.24	1127.41	1127.41
Rate of Depreciation	5.280	5.280	5.280	5.280
Depreciable Value	356.69	803.02	1014.67	1014.67
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22
Remaining Depreciable Value	356.69	799.64	964.19	904.66
<b>Depreciation</b>	<b>3.37</b>	<b>47.11</b>	<b>59.53</b>	<b>59.53</b>
<b>Interest on Loan</b>				
Gross Normative Loan	94.91	459.95	789.19	789.19
Cumulative Repayment upto Previous Year	0.00	3.37	50.48	110.01
Net Loan-Opening	94.91	456.58	738.70	679.18
Additions	365.04	329.24	0.00	0.00
Repayment during the year	3.37	47.11	59.53	59.53
Net Loan-Closing	456.58	738.70	679.18	619.65



Asset-II				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Average Loan	275.74	597.64	708.94	649.41
Weighted Average Rate of Interest on Loan (%)	9.1535	9.3105	9.3105	9.3105
<b>Interest</b>	<b>4.07</b>	<b>55.64</b>	<b>66.01</b>	<b>60.46</b>
<b>Return on Equity</b>				
Opening Equity	40.67	197.12	338.22	338.22
Additions	156.45	141.10	0.00	0.00
Closing Equity	197.12	338.22	338.22	338.22
Average Equity	118.90	267.67	338.22	338.22
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>3.76</b>	<b>52.49</b>	<b>66.33</b>	<b>66.33</b>
<b>Interest on Working Capital</b>				
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	1.91	26.47	32.71	31.77
Total	1.91	26.47	32.71	31.77
<b>Interest</b>	<b>0.26</b>	<b>3.57</b>	<b>4.42</b>	<b>4.29</b>
<b>Annual Transmission Charges</b>				
Depreciation	3.37	47.11	59.53	59.53
Interest on Loan	4.07	55.64	66.01	60.46
Return on Equity	3.76	52.49	66.33	66.33
Interest on Working Capital	0.26	3.57	4.42	4.29
O & M Expenses	0.00	0.00	0.00	0.00
<b>Total</b>	<b>11.46</b>	<b>158.82</b>	<b>196.27</b>	<b>190.60</b>

(₹ in lakh)

Asset-III			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	1543.64	1623.14	1702.64
Additional Capitalisation	79.50	79.50	39.75



Asset-III			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Closing Gross Block	1623.14	1702.64	1742.39
Average Gross Block	1583.39	1662.89	1722.52
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	1425.05	1496.60	1550.26
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1425.05	1462.01	1427.88
<b>Depreciation</b>	<b>34.59</b>	<b>87.80</b>	<b>90.95</b>
<b>Interest on Loan</b>			
Gross Normative Loan	1080.55	1136.20	1191.85
Cumulative Repayment upto Previous Year	0.00	34.59	122.39
Net Loan-Opening	1080.55	1101.61	1069.46
Additions	55.65	55.65	27.83
Repayment during the year	34.59	87.80	90.95
Net Loan-Closing	1101.61	1069.46	1006.34
Average Loan	1091.08	1085.54	1037.90
Weighted Average Rate of Interest on Loan (%)	7.9984	7.9984	7.9984
<b>Interest</b>	<b>36.10</b>	<b>86.83</b>	<b>83.02</b>
<b>Return on Equity</b>			
Opening Equity	463.09	486.94	510.79
Additions	23.85	23.85	11.93
Closing Equity	486.94	510.79	522.72
Average Equity	475.02	498.87	516.75
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>38.54</b>	<b>97.83</b>	<b>101.34</b>
<b>Interest on Working Capital</b>			
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	18.60	46.40	46.88
Total	18.60	46.40	46.88
<b>Interest</b>	<b>2.38</b>	<b>5.94</b>	<b>6.00</b>
<b>Annual Transmission Charges</b>			





Asset-III			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	34.59	87.80	90.95
Interest on Loan	36.10	86.83	83.02
Return on Equity	38.54	97.83	101.34
Interest on Working Capital	2.38	5.94	6.00
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>111.61</b>	<b>278.39</b>	<b>281.30</b>

(₹ in lakh)

Asset-IV			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	1550.89	1630.39	1709.89
Additional Capitalisation	79.50	79.50	39.75
Closing Gross Block	1630.39	1709.89	1749.64
Average Gross Block	1590.64	1670.14	1729.77
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	1431.58	1503.13	1556.79
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1431.58	1475.28	1440.76
<b>Depreciation</b>	<b>27.84</b>	<b>88.18</b>	<b>91.33</b>
<b>Interest on Loan</b>			
Gross Normative Loan	1085.62	1141.27	1196.92
Cumulative Repayment upto Previous Year	0.00	27.84	116.03
Net Loan-Opening	1085.62	1113.43	1080.90
Additions	55.65	55.65	27.83
Repayment during the year	27.84	88.18	91.33
Net Loan-Closing	1113.43	1080.90	1017.39
Average Loan	1099.53	1097.16	1049.14
Weighted Average Rate of Interest on Loan (%)	7.9983	7.9983	7.9983
<b>Interest</b>	<b>29.07</b>	<b>87.75</b>	<b>83.91</b>
<b>Return on Equity</b>			
Opening Equity	465.27	489.12	512.97
Additions	23.85	23.85	11.93



Asset-IV			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Closing Equity	489.12	512.97	524.89
Average Equity	477.19	501.04	518.93
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>30.94</b>	<b>98.25</b>	<b>101.76</b>
<b>Interest on Working Capital</b>			
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	14.96	46.69	47.17
Total	14.96	46.69	47.17
<b>Interest</b>	<b>1.92</b>	<b>5.98</b>	<b>6.04</b>
<b>Annual Transmission Charges</b>			
Depreciation	27.84	88.18	91.33
Interest on Loan	29.07	87.75	83.91
Return on Equity	30.94	98.25	101.76
Interest on Working Capital	1.92	5.98	6.04
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>89.77</b>	<b>280.17</b>	<b>283.05</b>

(₹ in Lakh)

Asset-V			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	97.48	1490.44	1651.10
Additional Capitalisation	1392.96	160.66	160.66
Closing Gross Block	1490.44	1651.10	1811.76
Average Gross Block	793.96	1570.77	1731.43
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	714.56	1413.69	1558.29
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	714.56	1372.00	1433.66
<b>Depreciation</b>	<b>41.69</b>	<b>82.94</b>	<b>91.42</b>
<b>Interest on Loan</b>			



Asset-V			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Gross Normative Loan	68.24	1043.31	1155.77
Cumulative Repayment upto Previous Year	0.00	41.69	124.63
Net Loan-Opening	68.24	1001.62	1031.14
Additions	975.07	112.46	112.46
Repayment during the year	41.69	82.94	91.42
Net Loan-Closing	1001.62	1031.14	1052.18
Average Loan	534.93	1016.38	1041.66
Weighted Average Rate of Interest on Loan (%)	9.0737	9.0737	9.0737
Interest	<b>48.14</b>	<b>92.22</b>	<b>94.52</b>
<b>Return on Equity</b>			
Opening Equity	29.24	447.13	495.33
Additions	417.89	48.20	48.20
Closing Equity	447.13	495.33	543.53
Average Equity	238.19	471.23	519.43
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>46.33</b>	<b>92.41</b>	<b>101.86</b>
<b>Interest on Working Capital</b>			
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	23.19	45.57	49.01
Total	23.19	45.57	49.01
Interest	<b>2.97</b>	<b>5.83</b>	<b>6.27</b>
<b>Annual Transmission Charges</b>			
Depreciation	41.69	82.94	91.42
Interest on Loan	48.14	92.22	94.52
Return on Equity	46.33	92.41	101.86
Interest on Working Capital	2.97	5.83	6.27
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>139.13</b>	<b>273.40</b>	<b>294.07</b>



(₹ in lakh)

Asset-VI			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	1637.84	1735.46	1833.08
Additional Capitalisation	97.62	97.62	48.81
Closing Gross Block	1735.46	1833.08	1881.89
Average Gross Block	1686.65	1784.27	1857.49
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	1517.99	1605.84	1671.74
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1517.99	1561.44	1533.12
Depreciation	<b>44.41</b>	<b>94.21</b>	<b>98.08</b>
<b>Interest on Loan</b>			
Gross Normative Loan	1146.49	1214.82	1283.16
Cumulative Repayment upto Previous Year	0.00	44.41	138.62
Net Loan-Opening	1146.49	1170.42	1144.54
Additions	68.33	68.33	34.17
Repayment during the year	44.41	94.21	98.08
Net Loan-Closing	1170.42	1144.54	1080.63
Average Loan	1158.45	1157.48	1112.59
Weighted Average Rate of Interest on Loan (%)	8.0295	8.0295	8.0295
Interest	<b>46.38</b>	<b>92.94</b>	<b>89.34</b>
<b>Return on Equity</b>			
Opening Equity	491.35	520.64	549.92
Additions	29.29	29.29	14.64
Closing Equity	520.64	549.92	564.57
Average Equity	506.00	535.28	557.25
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>49.48</b>	<b>104.97</b>	<b>109.28</b>
<b>Interest on Working Capital</b>			
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	23.89	49.75	50.53



Asset-VI			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Total	23.89	49.75	50.53
Interest	<b>3.06</b>	<b>6.37</b>	<b>6.47</b>
<b>Annual Transmission Charges</b>			
Depreciation	44.41	94.21	98.08
Interest on Loan	46.38	92.94	89.34
Return on Equity	49.48	104.97	109.28
Interest on Working Capital	3.06	6.37	6.47
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>143.32</b>	<b>298.49</b>	<b>303.15</b>

(₹ in lakh)

Asset-VII			
Asset-3	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	1053.76	1419.49	1785.22
Additional Capitalisation	365.73	365.73	182.86
Closing Gross Block	1419.49	1785.22	1968.08
Average Gross Block	1236.63	1602.36	1876.65
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	1112.96	1442.12	1688.99
Elapsed Life of the assets at beginning of year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	1112.96	1409.56	1571.82
Depreciation	<b>32.56</b>	<b>84.60</b>	<b>99.09</b>
<b>Interest on Loan</b>			
Gross Normative Loan	737.63	993.64	1249.65
Cumulative Repayment upto Previous Year	0.00	32.56	117.16
Net Loan-Opening	737.63	961.09	1132.49
Additions	256.01	256.01	128.00
Repayment during the year	32.56	84.60	99.09
Net Loan-Closing	961.09	1132.49	1161.41
Average Loan	849.36	1046.79	1146.95
Weighted Average Rate of Interest on Loan (%)	8.3905	8.3905	8.3905
Interest	<b>35.44</b>	<b>87.83</b>	<b>96.23</b>



Asset-VII			
Asset-3	2016-17 (Pro-rata)	2017-18	2018-19
<b>Return on Equity</b>			
Opening Equity	316.13	425.85	535.57
Additions	109.72	109.72	54.86
Closing Equity	425.85	535.57	590.42
Average Equity	370.99	480.71	563.00
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>36.18</b>	<b>94.27</b>	<b>110.40</b>
<b>Interest on Working Capital</b>			
Maintenance Spares	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00
Receivables	17.74	45.42	52.06
Total	17.74	45.42	52.06
Interest	<b>2.27</b>	<b>5.81</b>	<b>6.66</b>
<b>Annual Transmission Charges</b>			
Depreciation	32.56	84.60	99.09
Interest on Loan	35.44	87.83	96.23
Return on Equity	36.18	94.27	110.40
Interest on Working Capital	2.27	5.81	6.66
O & M Expenses	0.00	0.00	0.00
<b>Total</b>	<b>106.44</b>	<b>272.52</b>	<b>312.39</b>

Asset-VIII				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
<b>Gross Block</b>				
Opening Gross Block	485.43	559.39	980.92	996.94
Additional Capitalisation	73.96	421.53	16.02	0.00
Closing Gross Block	559.39	980.92	996.94	996.94
Average Gross Block	522.41	770.15	988.93	996.94
Rate of Depreciation	5.280	5.280	5.280	5.280
Depreciable Value	470.17	693.14	890.04	897.25
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	25	24	23	22



Asset-VIII				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Remaining Depreciable Value	470.17	690.73	846.96	801.95
Depreciation	2.41	40.66	52.22	52.64
<b>Interest on Loan</b>				
Gross Normative Loan	339.80	391.57	686.64	697.86
Cumulative Repayment upto Previous Year	0.00	2.41	43.08	95.29
Net Loan-Opening	339.80	389.16	643.57	602.57
Additions	51.77	295.07	11.22	0.00
Repayment during the year	2.41	40.66	52.22	52.64
Net Loan-Closing	389.16	643.57	602.57	549.93
Average Loan	364.48	516.36	623.07	576.25
Weighted Average Rate of Interest on Loan (%)	8.9485	8.9844	8.9844	8.9844
Interest	<b>2.86</b>	<b>46.39</b>	<b>55.98</b>	<b>51.77</b>
<b>Return on Equity</b>				
Opening Equity	145.63	167.82	294.28	299.08
Additions	22.19	126.46	4.81	0.00
Closing Equity	167.82	294.28	299.08	299.08
Average Equity	156.72	231.05	296.68	299.08
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>2.69</b>	<b>45.31</b>	<b>58.18</b>	<b>58.65</b>
<b>Interest on Working Capital</b>				
Maintenance Spares	0.00	0.00	0.00	0.00
O & M expenses	0.00	0.00	0.00	0.00
Receivables	1.36	22.57	28.37	27.80
Total	<b>1.36</b>	<b>22.57</b>	<b>28.37</b>	<b>27.80</b>
Interest	0.18	3.05	3.83	3.75
<b>Annual Transmission Charges</b>				
Depreciation	2.41	40.66	52.22	52.64
Interest on Loan	2.86	46.39	55.98	51.77
Return on Equity	2.69	45.31	58.18	58.65
Interest on Working Capital	0.18	3.05	3.83	3.75
O & M Expenses	0.00	0.00	0.00	0.00



Asset-VIII				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
<b>Total</b>	<b>8.15</b>	<b>135.41</b>	<b>170.20</b>	<b>166.81</b>

Asset-IX			
Particular	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	1926.76	2864.31	2864.31
Additional Capitalisation	937.55	0.00	0.00
Closing Gross Block	2864.31	2864.31	2864.31
Average Gross Block	2395.54	2864.31	2864.31
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	2155.98	2577.88	2577.88
Elapsed Life of the assets at beginning	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	2155.98	2514.46	2363.23
<b>Depreciation</b>	<b>63.42</b>	<b>151.24</b>	<b>151.24</b>
<b>Interest on Loan</b>			
Gross Normative Loan	1348.73	2005.02	2005.02
Cumulative Repayment upto Previous Year	0.00	63.42	214.65
Net Loan-Opening	1348.73	1941.60	1790.37
Additions	656.28	0.00	0.00
Repayment during the year	63.42	151.24	151.24
Net Loan-Closing	1941.60	1790.37	1639.13
Average Loan	1645.17	1865.98	1714.75
Weighted Average Rate of Interest on Loan (%)	8.9165	8.9165	8.9165
Interest	<b>73.55</b>	<b>166.38</b>	<b>152.90</b>
<b>Return on Equity</b>			
Opening Equity	578.03	859.29	859.29
Additions	281.26	0.00	0.00
Closing Equity	859.29	859.29	859.29
Average Equity	718.66	859.29	859.29
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>70.66</b>	<b>168.51</b>	<b>168.51</b>
<b>Interest on Working Capital</b>			





Asset-IX			
Particular	2016-17 (Pro-rata)	2017-18	2018-19
Maintenance Spares	4.14	8.53	8.81
O & M expenses	2.30	4.74	4.89
Receivables	40.20	92.76	90.79
<b>Total</b>	<b>46.63</b>	<b>106.02</b>	<b>104.49</b>
Interest	5.97	13.57	13.38
<b>Annual Transmission Charges</b>			
Depreciation	63.42	151.24	151.24
Interest on Loan	73.55	166.38	152.90
Return on Equity	70.66	168.51	168.51
Interest on Working Capital	5.97	13.57	13.38
O & M Expenses	27.59	56.84	58.73
<b>Total</b>	<b>241.17</b>	<b>556.53</b>	<b>544.74</b>

Asset-X			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
<b>Gross Block</b>			
Opening Gross Block	4370.13	4974.17	4974.17
Additional Capitalisation	604.04	0.00	0.00
Closing Gross Block	4974.17	4974.17	4974.17
Average Gross Block	4672.15	4974.17	4974.17
Rate of Depreciation	5.280	5.280	5.280
Depreciable Value	4204.94	4476.75	4476.75
Elapsed Life of the assets at beginning of the year	0	1	2
Weighted Balance Useful life of the assets	25	24	23
Remaining Depreciable Value	4204.94	4353.07	4090.43
Depreciation	123.68	262.64	262.64
<b>Interest on Loan</b>			
Gross Normative Loan	3059.09	3481.92	3481.92
Cumulative Repayment upto Previous Year	0.00	123.68	386.32
Net Loan-Opening	3059.09	3358.24	3095.60
Additions	422.83	0.00	0.00
Repayment during the year	123.68	262.64	262.64
Net Loan-Closing	3358.24	3095.60	2832.97
Average Loan	3208.67	3226.92	2964.28
Weighted Average Rate of Interest on Loan (%)	8.6912	8.6912	8.6912
Interest	<b>139.82</b>	<b>280.46</b>	<b>257.63</b>



Asset-X			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
<b>Return on Equity</b>			
Opening Equity	1311.04	1492.25	1492.25
Additions	181.21	0.00	0.00
Closing Equity	1492.25	1492.25	1492.25
Average Equity	1401.64	1492.25	1492.25
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610
Return on Equity (Pre Tax)	<b>137.81</b>	<b>292.63</b>	<b>292.63</b>
<b>Interest on Working Capital</b>			
Maintenance Spares	7.53	15.51	16.02
O & M expenses	4.18	8.62	8.90
Receivables	77.14	160.46	157.17
Total	<b>88.85</b>	<b>184.58</b>	<b>182.10</b>
Interest	11.37	23.63	23.31
<b>Annual Transmission Charges</b>			
Depreciation	123.68	262.64	262.64
Interest on Loan	139.82	280.46	257.63
Return on Equity	137.81	292.63	292.63
Interest on Working Capital	11.37	23.63	23.31
O & M Expenses	50.18	103.39	106.83
<b>Total</b>	<b>462.86</b>	<b>962.74</b>	<b>943.04</b>

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

48. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.



### **Licence Fee and RLDC Fees and Charges**

49. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively of Regulation 52 of the 2014 Tariff Regulations.

### **Service Tax**

50. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer of service tax is premature.

### **Sharing of Transmission Charges**

51. 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.

52. This order disposes of Petition No. 69/TT/2016.

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

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



**ANNEXURE-1****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2015-19**

(₹ in lakh)

Particulars (Asset-I)	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-ADDCAP FOR 2015-2016 add cap loan-	9.55	0.00	440.40	440.40
BOND L-Doco Loan-	8.40	0.41	0.00	0.41
BOND LI-Doco Loan 1-	8.40	88.41	0.00	88.41
<b>Total</b>		<b>88.82</b>	<b>440.40</b>	<b>529.22</b>

(₹ in lakh)

Asset-II	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-ADDCAP FOR 2015-2016 add cap loan-	9.55	0.00	365.04	365.04
BOND LI-Doco Loan-	8.40	96.03	0.00	96.03
<b>Total</b>		<b>96.03</b>	<b>365.04</b>	<b>461.07</b>

(₹ in lakh)

Asset-III	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 1-	9.55	15.64	0.00	15.64
BOND LI-Doco Loan-	8.40	14.00	0.00	14.00
Proposed Loan 2016-2017 July 16 7.97%- Doco loan 3-	7.97	1050.91	0.00	1050.91
<b>Total</b>		<b>1080.55</b>	<b>0.00</b>	<b>1080.55</b>

(₹ in lakh)

Asset-IV	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 1-	9.55	15.64	0.00	15.64
BOND LI-Doco Loan-	8.40	14.00	0.00	14.00



Asset-IV	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
Proposed Loan 2016-17 July 16 7.97%- Doco loan 10-	7.97	1055.98	0.00	1055.98
<b>Total</b>		<b>1085.62</b>	<b>0.00</b>	<b>1085.62</b>

(₹ in lakh)

Asset-V	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 2-	9.55	82.89	0.00	82.89
BOND L-Doco Loan -	8.40	11.00	0.00	11.00
BOND LI-Doco Loan 1-	8.40	47.60	0.00	47.60
<b>Total</b>		<b>141.49</b>	<b>0.00</b>	<b>141.49</b>

(₹ in lakh)

Asset-VI	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 1-	9.55	34.76	0.00	34.76
BOND LI-Doco Loan -	8.40	31.00	0.00	31.00
Proposed Loan 2016-17 July 16 7.97%- Doco loan-	7.97	1080.73	0.00	1080.73
<b>Total</b>		<b>1146.49</b>	<b>0.00</b>	<b>1146.49</b>

(₹ in lakh)

Asset-VII	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 2-	9.55	164.13	0.00	164.13
BOND L-Doco Loan -	8.40	18.25	0.00	18.25
BOND LI-Doco Loan 1-	8.40	100.00	0.00	100.00
Proposed Loan 2016-17 July 16 7.97%- Doco loan-	7.97	455.25	0.00	455.25
<b>Total</b>		<b>737.63</b>	<b>0.00</b>	<b>737.63</b>

(₹ in lakh)

Asset-VIII	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-ADDCAP FOR 2015-2016	9.55	0.00	51.77	51.77



Asset-VIII	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
add cap loan-				
SBI (2014-15)-Doco Loan 2-	9.55	168.14	0.00	168.14
BOND L-Doco Loan -	8.40	112.80	0.00	112.80
BOND LI-Doco Loan 1-	8.40	100.00	0.00	100.00
<b>Total</b>		<b>380.94</b>	<b>51.77</b>	<b>432.71</b>

(₹ in lakh)

Asset-IX	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 1-	9.55	827.10	0.00	827.10
BOND LI-Doco Loan -	8.40	51.00	0.00	51.00
Proposed Loan 2016-17 July 16 7.97%- Doco loan 5-	7.97	525.71	0.00	525.71
<b>Total</b>		<b>1403.81</b>	<b>0.00</b>	<b>1403.81</b>

(₹ in lakh)

Asset-X	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (2014-15)-Doco Loan 1-	9.55	1376.75	0.00	1376.75
BOND LI-Doco Loan -	8.40	85.00	0.00	85.00
Proposed Loan 2016-17 July 16 7.97%- Doco loan 3-	7.97	1605.31	0.00	1605.31
<b>Total</b>		<b>3067.06</b>	<b>0.00</b>	<b>3067.06</b>

### CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2015-19

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	88.82	529.22	529.22	529.22
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	0.00



Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Net Loan Opening	88.82	529.22	529.22	529.22
Additions during the year	440.40	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00
Net Loan Closing	529.22	529.22	529.22	529.22
Average Loan	309.02	529.22	529.22	529.22
<b>Rate of Interest (%)</b>	9.2195	9.3570	9.3570	9.3570
Interest	28.49	49.52	49.52	49.52

(₹ in lakh)

Asset-II				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	96.03	461.07	461.07	461.07
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	0.00
Net Loan Opening	96.03	461.07	461.07	461.07
Additions during the year	365.04	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00
Net Loan Closing	461.07	461.07	461.07	461.07
Average Loan	278.55	461.07	461.07	461.07
<b>Rate of Interest (%)</b>	9.1535	9.3105	9.3105	9.3105
Interest	25.50	42.93	42.93	42.93

(₹ in lakh)

Asset-III			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	1080.55	1080.55	1080.55
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	1080.55	1080.55	1080.55
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	1080.55	1080.55	1080.55
Average Loan	1080.55	1080.55	1080.55
<b>Rate of Interest (%)</b>	7.9984	7.9984	7.9984
Interest	86.43	86.43	86.43

(₹ in lakh)

Asset-IV
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Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	1085.62	1085.62	1085.62
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	1085.62	1085.62	1085.62
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	1085.62	1085.62	1085.62
Average Loan	1085.62	1085.62	1085.62
<b>Rate of Interest (%)</b>	7.9983	7.9983	7.9983
Interest	86.83	86.83	86.83

(₹ in lakh)

Asset-V			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	141.49	141.49	141.49
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	141.49	141.49	141.49
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	141.49	141.49	141.49
Average Loan	141.49	141.49	141.49
<b>Rate of Interest (%)</b>	9.0737	9.0737	9.0737
Interest	12.84	12.84	12.84

(₹ in lakh)

Asset-VI			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	1146.49	1146.49	1146.49
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	1146.49	1146.49	1146.49
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	1146.49	1146.49	1146.49
Average Loan	1146.49	1146.49	1146.49
<b>Rate of Interest (%)</b>	8.0295	8.0295	8.0295
Interest	92.06	92.06	92.06





(₹ in lakh)

Asset-VII			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	737.63	737.63	737.63
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	737.63	737.63	737.63
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	737.63	737.63	737.63
Average Loan	737.63	737.63	737.63
<b>Rate of Interest (%)</b>	8.3905	8.3905	8.3905
Interest	61.89	61.89	61.89

(₹ in lakh)

Asset-VIII				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	380.94	432.71	432.71	432.71
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	0.00
Net Loan Opening	380.94	432.71	432.71	432.71
Additions during the year	51.77	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00
Net Loan Closing	432.71	432.71	432.71	432.71
Average Loan	406.83	432.71	432.71	432.71
<b>Rate of Interest (%)</b>	8.95	8.98	8.98	8.98
Interest	36.40	38.88	38.88	38.88

(₹ in lakh)

Asset-IX			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	1403.81	1403.81	1403.81
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	1403.81	1403.81	1403.81
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	1403.81	1403.81	1403.81
Average Loan	1403.81	1403.81	1403.81
<b>Rate of Interest (%)</b>	8.9165	8.9165	8.9165
Interest	125.17	125.17	125.17



(₹ in lakh)

Asset-X			
Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	3067.06	3067.06	3067.06
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00
Net Loan Opening	3067.06	3067.06	3067.06
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan Closing	3067.06	3067.06	3067.06
Average Loan	3067.06	3067.06	3067.06
<b>Rate of Interest (%)</b>	8.6912	8.6912	8.6912
Interest	266.56	266.56	266.56

