

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 422/TT/2014**

**Coram:**

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

**Date of Hearing : 14.03.2016**

**Date of Order : 25.04.2016**

**In the matter of:**

Determination of transmission tariff of **Asset-I:** 765 kV 3x80 MVAR bus reactor at Bina Sub-station along with associated bays, **Asset-II:** 765 kV 3x80 MVAR bus reactor at Indore Sub-station with bays, **Asset-III:** 765 kV 3x80 MVAR line reactor along with associated bays at Gwalior Sub-station (to be used as bus reactor under interim contingency scheme till readiness of 765 kV S/C Gwalior-Jaipur 2nd circuit transmission line, **Asset-IV:** 765 kV S/C Gwalior-Jaipur 2nd circuit transmission line and bay extension of 765/400 kV Phagi (RVPN-Jaipur) Sub-station and **Asset-V:** 765 kV S/C Bina-Gwalior 3rd circuit transmission line under Transmission System for Phase-I Generation Projects in Orissa Part-C in Western Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

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

.....**Petitioner**

**Versus**

1. GMR Kamalanga Energy Ltd.,  
Skip House, Bangalore,  
Karnataka-560025
2. Monnet Power Company Ltd.,  
Monnet Marg, Mandir Hasaud,  
Raipur, Chattisgarh-492101



3. Lanco Babandh Power Ltd.,  
Udyog Vihar, Gurgaon,  
Haryana-120016
4. Ind Barath Energy (Utkal) Ltd.,  
Film Nagar, Jubilee Hills,  
Hyderabad, Andhra Pradesh-500033
5. Navbharat Power Private Limited,  
Navbharat Chambers, 6-3-1109/1,  
3<sup>rd</sup> Floor, Left Wing, Raj Bhawan Road,  
Somajiguda, Hyderabad,  
Andhra Pradesh-500082
6. Jindal India Thermal Power Ltd.,  
Local Shopping Complex,  
Vasant Kunj, New Delhi-110070
7. Sterlite Energy Ltd.,  
Sipcot Industrial Complex, Tuticorin,  
Tamil Nadu-628002
8. Madhya Pradesh Power Management Company Ltd.  
Shakti Bhawan, Rampur, Jabalpur-482008
9. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4<sup>th</sup> Floor, Bandra (East), Mumbai-400052
10. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,  
Race Course Road  
Vadodara- 390007
11. Electricity Department  
Govt. of Goa,  
Vidyut Bhawan, Panaji- 403001
12. Electricity Department  
Administration of Daman & Diu,  
Daman- 396210
13. Electricity Department  
Administration of Dadra Nagar Haveli,  
U.T., Silvassa- 396230



14. Chhattisgarh State Electricity Board  
P.O Sunder Nagar, Dangania, Raipur  
Chhattisgarh-492013
15. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road  
Indore-452008

.....Respondents

The following were present:

For Petitioner:                      Shri Rakesh Prasad, PGCIL  
   Shri Jasbir Singh, PGCIL  
   Shri Subhash C.Taneja , PGCIL  
   Shri S.S. Raju, PGCIL  
   Shri M.M. Mondal, PGCIL  
   Shri S.K. Venkatesan, PGCIL

For Respondent:                      None

### **ORDER**

The present petition has been preferred by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for 765 kV 3x80 MVAR bus reactor at Bina Sub-station along with associated bays (referred as “**Asset-I**”), 765 kV 3x80 MVAR bus reactor at Indore Sub-station with bays (referred as “**Asset-II**”), 765 kV 3x80 MVAR line reactor along with associated bays at Gwalior Sub-station (to be used as bus reactor under interim contingency scheme till readiness of 765 kV S/C Gwalior-Jaipur 2nd circuit transmission line (referred as “**Asset-III**”), 765 kV S/C Gwalior-Jaipur 2nd circuit transmission line and bay extension of 765/400 kV Phagi (RVPN-Jaipur) Sub-station (referred as “**Asset-IV**”) and 765 kV S/C Bina-Gwalior 3rd circuit transmission line (referred as



“**Asset-V**”) under Transmission System for Phase-I Generation Projects in Orissa Part-C in Western Region (hereinafter referred as “transmission asset”) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD of respective assets to 31.3.2019.

2. The respondents are generating companies, distribution licensees, electricity departments and centralised companies who are procuring transmission service from the petitioner, mainly beneficiaries of the Western Region.

3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of 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. None of the respondents have filed any reply to the petition. The hearing in this matter was held on 14.3.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

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

(a) Investment approval was accorded by Board of Directors of the petitioner vide the Memorandum No. C/CP/Orissa Ph-I IPPs(Part-C) dated 17.3.2011 at an estimated cost of ₹256925 lakh, which included IDC of ₹16902 lakh. Subsequently, Revised Cost Estimate (RCE) was approved



by Board of Directors of the petitioner, vide Memorandum No. C/CP/RCE-ER dated 9.3.2015 at an estimated cost of ₹310551 lakh, which included IDC of ₹25897 lakh (based on August 2014 price level).

(b) The scope of work covered under the project is as follows:-

**Transmission Lines:**

1. Jabalpur Pooling Station-Bina 765kV D/C Line,
2. Bina-Gwalior 765kV S/C (3<sup>rd</sup> Circuit) line,
3. Gwalior - Jaipur (RVPNL) 765kV S/C (2<sup>nd</sup> Circuit) Line,
4. Jaipur (RVPNL) - Bhiwani 765 kV S/C Line.

**Sub-station:**

1. Extension of 765/400 kV Jabalpur Pooling Station,
2. Extension of 765/400 kV Bina Sub-station,
3. Extension of 765/400 kV Indore Sub-station,
4. Extension of 765/400 kV Gwalior Sub-station,
5. Extension of 765/400 kV Jaipur (RVPNL) Sub-station,
6. Extension of 765/400 kV Bhiwani Sub-station,

**Reactive Compensation:**

1. 765/400 kV Jabalpur Pooling Station:  
765 kV, 3x80 MVAR line reactors- 2 nos.
2. 765/400 kV Bina Sub-station:  
765 kV, 3x80 MVAR line reactors- 3 nos.  
765 kV, 3x80 MVAR bus reactor- 1 no.
3. 765/400 kV Indore Sub-station:



- 765 kV, 3x80 MVAR bus reactor- 1 no.
- 400 kV, 125 MVAR bus reactor- 1 no.
4. 765/400 kV Gwalior Sub-station,
- 765 kV, 3x80 MVAR line reactors- 2 nos.
- 400 kV, 125 MVAR bus reactors- 2 nos.
5. 765/400 kV Jaipur (RVPNL) Sub-station,
- 765 kV, 3x80 MVAR line reactors- 2 nos.
- 765 kV, 3x80 MVAR bus reactor- 1 no.
6. Extension of 765/400 kV Bhiwani Sub-station,
- 765 kV, 3x80 MVAR line reactor- 1 no.

(c) The transmission asset was scheduled to be commissioned within 36 months from the date of investment approval i.e. 17.3.2011. Therefore, the scheduled date of commissioning (SCOD) of the transmission system works out to 1.4.2014 against which the Assets-I, II, III, IV and V have been commissioned on 1.4.2015, 2.8.2014, 24.11.2014, 13.8.2015 and 7.5.2014, respectively. Hence, there is time over-run of 12 months in case of Asset-I, 4 months in case of Asset-II, 7 months and 23 days in case of Asset-III, 16 months and 12 days in case of Asset-IV and 1 month and 6 days in case of Asset-V.

(d) The petitioner vide its affidavit dated 22.2.2016 has submitted the approved Revised Cost Estimate (RCE) for the project.

(e) The petitioner in original petition had submitted the tariff forms for the Asset-I, III and IV on the basis of unaudited figures. Accordingly, the



petitioner was directed to submit Auditor's Certificate and revised tariff forms for the Asset-I, III and IV. Further, the petitioner was directed to submit the RLDC certificates in support of trial operation or commercial operation date for the assets. In response, the petitioner, vide its affidavit dated 22.2.2016, has submitted the revised tariff forms along with Auditor's Certificates for Asset-I, II, III, IV & V. The petitioner has also submitted the RLDC certificates for all the assets.

5. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

6. The petitioner has claimed the transmission charges as under:-

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	106.54	117.46	119.41	119.41
Interest on Loan	129.38	132.65	124.16	113.12
Return on equity	118.71	130.87	133.04	133.04
Interest on Working Capital	12.98	13.75	13.81	13.73
O & M Expenses	87.22	90.12	93.11	96.20
<b>Total</b>	<b>454.83</b>	<b>484.85</b>	<b>483.53</b>	<b>475.50</b>

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	120.00	209.43	243.06	258.01	258.01
Interest on Loan	130.11	215.89	238.70	236.12	213.42
Return on equity	133.70	233.35	270.82	287.47	287.47
Interest on Working Capital	11.93	19.98	22.30	23.14	22.78
O & M Expenses	56.05	87.22	90.12	93.11	96.20
<b>Total</b>	<b>451.79</b>	<b>765.87</b>	<b>865.00</b>	<b>897.85</b>	<b>877.88</b>



(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	53.16	160.51	164.53	165.46	165.46
Interest on Loan	63.95	182.64	172.61	158.59	143.39
Return on equity	59.23	178.84	183.31	184.35	184.35
Interest on Working Capital	7.35	21.65	21.94	21.99	21.98
O & M Expenses	59.56	174.44	180.24	186.22	192.40
<b>Total</b>	<b>243.25</b>	<b>718.08</b>	<b>722.63</b>	<b>716.61</b>	<b>707.58</b>

(₹ in lakh)

Asset-IV				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Depreciation	2412.14	3951.85	3986.21	3986.21
Interest on Loan	2528.28	3942.31	3670.15	3323.40
Return on equity	2686.95	4402.13	4440.41	4440.41
Interest on Working Capital	185.48	299.15	295.11	287.67
O & M Expenses	179.32	291.79	301.64	311.58
<b>Total</b>	<b>7992.17</b>	<b>12887.23</b>	<b>12693.52</b>	<b>12349.27</b>

(₹ in lakh)

Asset-V					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	1811.73	2123.62	2150.34	2158.12	2158.12
Interest on Loan	1715.04	1899.48	1802.30	1657.67	1477.96
Return on equity	2017.12	2364.34	2394.11	2402.78	2402.78
Interest on Working Capital	134.58	155.04	154.35	151.69	147.83
O & M Expenses	126.21	145.01	149.63	154.72	159.81
<b>Total</b>	<b>5804.68</b>	<b>6687.49</b>	<b>6650.73</b>	<b>6524.98</b>	<b>6346.50</b>

7. 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	13.08	13.52	13.97	14.43
O & M Expenses	7.27	7.51	7.76	8.02
Receivables	75.81	80.81	80.59	79.25
Total	96.16	101.84	102.32	101.70
Rate of Interest	13.50	13.50	13.50	13.50
Interest	12.98	13.75	13.81	13.73
<b>Pro-rata Interest</b>	<b>12.98</b>	<b>13.75</b>	<b>13.81</b>	<b>13.73</b>

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
O & M Expenses	7.04	7.27	7.51	7.76	8.02
Receivables	113.41	127.65	144.17	149.64	146.31
Total	133.11	148.00	165.20	171.37	168.76
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	17.97	19.98	22.30	23.14	22.78
<b>Pro-rata Interest</b>	<b>11.93</b>	<b>19.98</b>	<b>22.30</b>	<b>23.14</b>	<b>22.78</b>

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	25.32	26.17	27.04	27.93	28.86
O & M Expenses	14.07	14.54	15.02	15.52	16.03
Receivables	114.92	119.68	120.44	119.44	117.93
Total	154.31	160.39	162.50	162.89	162.82
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	20.83	21.65	21.94	21.99	21.98
<b>Pro-rata Interest</b>	<b>7.35</b>	<b>21.65</b>	<b>21.94</b>	<b>21.99</b>	<b>21.98</b>

(₹ in lakh)

Asset-IV				
Particulars	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	42.40	43.77	45.25	46.74
O & M Expenses	23.56	24.32	25.14	25.97
Receivables	2099.64	2147.87	2115.59	2058.21
Total	2165.60	2215.96	2185.98	2130.92
Rate of Interest	13.50	13.50	13.50	13.50
Interest	292.36	299.15	295.11	287.67
<b>Pro-rata Interest</b>	<b>185.48</b>	<b>299.15</b>	<b>295.11</b>	<b>287.67</b>



(₹ in lakh)

Asset-V					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	21.02	21.75	22.44	23.21	23.97
O & M Expenses	11.68	12.08	12.47	12.89	13.32
Receivables	1074.29	1114.58	1108.46	1087.50	1057.75
Total	1106.99	1148.41	1143.37	1123.60	1095.04
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	149.44	155.04	154.35	151.69	147.83
<b>Pro-rata Interest</b>	<b>134.58</b>	<b>155.04</b>	<b>154.35</b>	<b>151.69</b>	<b>147.83</b>

### Date of Commercial Operation (COD)

8. The petitioner has claimed the date of the commercial operation of the Asset-I, II, III, IV and V as 1.4.2015, 2.8.2014, 24.11.2014, 13.8.2015 and 7.5.2014, respectively. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

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

xxx]

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

(i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations :

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



9. The petitioner vide its affidavit dated 22.2.2016 has submitted CEA inspection certificates for energization for Assets- I to V, RLDC certificate issued by WRLDC, POSOCO for Asset-I, II, III & V and NLDC, POSOCO for Asset- IV in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation.

10. Accordingly, the date of commercial operation of Assets-I, II, III IV and Asset-V has been considered as 1.4.2015, 2.8.2014, 24.11.2014, 13.8.2015 and 7.5.2014 respectively and the tariff is worked out from COD to 31.3.2019.

### **Capital Cost**

11. Regulations 9 and 10 of the 2014 Tariff Regulations specify as follows:-

**“9. Capital Cost:** (1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.

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

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

...



(6) The following shall be excluded or removed from the capital cost of the existing and new project:

- a) The assets forming part of the project, but not in use;
- b) Decapitalisation of Asset;
- c) In case of hydro generating station any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State government by following a two stage transparent process of bidding; and
- d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

**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.”

12. The petitioner has submitted Auditor’s Certificates for all the assets in support of capital cost incurred up to COD. As per the Auditor’s Certificates, the capital cost (including total IDC and IEDC and initial spares) as on COD is ₹1887.44 lakh, ₹3256.30 lakh, ₹2790.51, ₹71196.01 and ₹37507.31 lakh for Assets-I, II, III, IV and V respectively.

### **Cost Over-run**

13. The petitioner vide its affidavit dated 22.2.2016 has submitted the RCE for the project. The details FR approved apportioned cost, the revised apportioned cost and the estimated completion cost are as given below:-



(₹ in lakh)

Asset	COD	Apportioned cost as per FR as submitted in original petition	Revised apportioned cost as per RCE	Estimated completion cost an on 31.3.2019
Asset-I	1.4.2015	2016.43	2261.49	2261.49
Asset-II	2.8.2014	3500.76	5281.56	4886.51
Asset-III	24.11.2014	3166.46	3532.43	3133.66
Asset-IV	13.8.2015	56118.27	75478.73	75478.73
Asset-V	7.5.2014	40122.74	40843.23	40842.88
Total		<b>104924.66</b>	<b>127397.44</b>	<b>126603.27</b>

14. The completion cost of Assets-I, II, IV and V is more than the approved apportioned FR cost and the petitioner vide affidavit dated 22.2.2016 has submitted the reasons for cost variation with respect to FR. The petitioner has submitted that the cost increased due to higher award cost received in competitive bidding compared to initial estimates, change in tower configuration, enhanced compensation, etc. as given below:-

- a. Crop/tree compensation - Against provision of ₹346 lakh, actual compensation paid is ₹2700 lakh based on the assessment by concerned state Revenue Authorities.
- b. Tower steel (increase of ₹2539 lakh): There is increase in tower weight from 23715 MT to 24254.3 MT i.e. by 539.3 MT approx. mainly on following accounts:-
  - (i) Variation in Tower unit Weight after detailed Design w.r.t to FR: A tentative approximate weight was considered during FR preparation. However, there were variations in tower weight considered in FR w.r.t. actual weight after detailed design/tower testing especially in tension/angle towers due to increase in line



length from 300 km to 311.7 km. Further, special towers in river crossings were required during execution since the spans at river crossing locations are very long.

(ii) Increase in angle/tension towers: To avoid the row/GIB Sanctuary area, suspension towers got reduced which resulted in the increase of tension/angle towers and its extensions/cut points got increased. Due to this increase in cut points/angle towers, the tower weight got increased in this transmission line.

c. Conductor (increase of ₹483 lakh): There was increase in conductor length from 3654 km to 3780.52 km i.e. by 126.52 km due to change in line length from 300 km to 311.7 km.

d. Insulators, Hardware fittings and Conductor & Earthwire accessories (increase of ₹1901 lakh): There is increase in quantity of insulators, hardware fittings and conductor and earth wire accessories due to change in line length from 300 km to 311.7 km.

15. The completion cost is more than the FR approved apportioned cost due to change in length, increase in the quantity of material and enhanced compensation as discussed above. However, the estimated completion cost of the instant assets is within the revised apportioned cost as per RCE. We have considered the reasons submitted by the petitioner and the cost variation is allowed as it is not within its control.



### **Time Over-run**

16. As per the investment approval dated 17.3.2011, the project was scheduled to be commissioned within 36 months from the date of investment approval. Hence, the assets were to be commissioned progressively upto 1.4.2014. The details of the actual date of commercial operation and time over-run in case of the instant assets is given below:-

<b>Assets name</b>	<b>SCOD as per IA dtd 17.3.2011</b>	<b>Actual date of commercial operation</b>	<b>Delay in months</b>
Asset-I	1.4.2014	1.4.2015	12 months
Asset-II		2.8.2014	4 months
Asset-III		24.11.2014	7 months and 23 days
Asset-IV		13.8.2015	16 months and 12 days
Asset-V		7.5.2014	1 month and 6 days

17. With regard to time over-run in case of Asset-I to Asset-III, the petitioner has submitted that reactors were supplied at Mumbai port in January, 2014. Due to fire on shipping vessel, some of the material got damaged. There was an issue regarding verification of damaged material and payment of custom duty on damaged/healthy items, which got resolved by April, 2014 and materials dispatched from Mumbai port. In this regard, the petitioner in its affidavit dated 22.2.2016 has submitted the Mumbai Port Trust letter no. PFS/MIS/221 dated 30.1.2014 to verify that there was fire on the vessel at BPS, Indira Dock at Mumbai port. Further, the petitioner vide its affidavit dated 22.3.2016 submitted the minutes of meeting held on 23.1.2014 between M/s XIAN XD Transformer Company Ltd. and the petitioner containing details of damaged assets due to fire on board. The petitioner has also submitted the Short Form Survey Report (Goods) by M/s Wilson Surveyors and Adjusters Pvt. Ltd. depicting the nature



and cause of loss and damage and narrative report of the damaged caused due to fire. Due to fire accident, some of the components were damaged, out of which some were repaired by the agency at their cost and this resulted into further delays in commissioning the assets. The petitioner has also submitted that delay beyond April, 2014 in case of Assets I, II and III was due to delay in supply of accessories.

18. As regards the time over-run in case of Asset-IV (765 kV S/C Gwalior-Jaipur 2nd circuit transmission line and bay extension of 765/400 kV Phagi (RVPN-Jaipur) S/S ), the petitioner has submitted the following reasons for delay:-

- a) There was delay in obtaining forest clearance for some stretch of Inter-state Gwalior-Jaipur line passing through unavoidable two wildlife sanctuaries, viz. (i) Ghatigaon Great Indian Bustard (GIB) Sanctuary in Madhya Pradesh and(ii) the Chambal River declared as Chambal Crocodile Sanctuary. Moreover, presence of Tighara dam and area covered under Special Area Development Authority (SADA) on Western side of the Gwalior were big constraints. Due to the constraint and the natural geographical location of GIB Sanctuary, it was not possible to completely avoid the route of line away from Sanctuary area. However, the petitioner has taken a decision to make two 765 KV Single Circuit line into one Double Circuit line in Sanctuary and Forest area to minimize the right of way requirement. This initiative has not only reduced the involvement of forest and sanctuary area but has facilitated smooth processing of case and also in obtaining permission from Hon'ble Supreme Court.





b) The forest proposal was submitted in July, 2012. However, as per the then prevailing rules and guidelines, forest proposal of projects involving both Forest and Wildlife sanctuary / National Parks were not processed till the prior permission of Hon'ble Supreme Court is obtained. This is substantiated by the letter no. 11-9/98-FC dated 4.4.2001 of the Ministry of Environment and Forests, New Delhi. The Hon'ble Supreme Court vide its order dated 20.1.2014 allowed permission to construct transmission line through sanctuaries. This was for the first time, Hon'ble Supreme Court granted permission for the GIB Sanctuary area without the recommendation of National Board for Wild Life (NBWL). However, there was delay in obtaining NBWL recommendation for the GIB sanctuary area due to expiry of term of Standing Committee of NBWL on 7.9.2013. MOEF received the GIB proposal of petitioner from Government of Madhya Pradesh on 25.9.2013. It took 11 months in reconstitution of Standing Committee of NBWL and the same was notified by Ministry of Environment, Forests and Climate Change, National Board of Wildlife vide Notification No. F.No. 6-46/2013-WL (pt.-2) on 22.7.2014. The first meeting of Standing Committee of NBWL on GIB proposal of petitioner was held on 13.8.2014 wherein the Committee decided that decision will be taken after the inspection by the Wildlife Institute of India (WII). The WII after inspection and multiple rounds of deliberation with petitioner submitted its report to MoEF on 26.12.2014. The proposal along with WII report was again discussed in the next meeting held on 21.01.2015 and was



recommended. After the NBWL's recommendation, the forest proposal for balance 20.07 ha. forest under the GIB sanctuary was processed and in principle approval accorded on 25.5.2015 and after complying with the conditions laid down, the working permission was granted on 3.1. 2015.

- c) Thus, it took approximately 35 months in obtaining clearance for forest and wildlife sanctuary area in Madhya Pradesh and this is quite higher in comparison to the MOEF stipulated 300 days timeline for in-principle approval.

19. The petitioner has submitted that time over-run in case of Asset-V (765 kV S/C Bina-Gwalior 3rd circuit transmission line) was mainly due to delay in getting forest approval. The petitioner submitted proposal for forest clearance to forest departments of Shivpuri and Gwalior in Madhya Pradesh on 26.5.2012 and 30.1.2013. After continuous efforts by the petitioner and forest departments, Ministry of Environment and Forest, GOI vide its letter dated 5.9.2013 issued the Stage-I approval to the proposal and requested for compliance report for the same. In response, the petitioner vide its letter dated 30.9.2013 submitted the compliance report to the forest departments. After continuous efforts by the petitioner and forest departments, Ministry of Environment and Forest, GOI vide its letter dated 3.2.2014 issued the Stage-II approval to the proposal. Subsequently, Government of Madhya Pradesh vide its letter dated 17.2.2014 issued forest approval. Further, due to ongoing Lok Sabha Election, 132 kV power line crossing shutdown was denied by SLDC till 30.4.2014. Thus, it took approximately 2 months in obtaining forest clearance in case of Asset-V.



20. We have considered the submissions of the petitioner regarding the time over-run in case of the instant assets. It is observed that in case of Assets I, II and III, the reactors were supplied at Mumbai Port in January, 2014. However, due to fire on shipping vessel, some of the material got damaged, which was resolved by April, 2014. The petitioner has submitted that the time over-run is because of the delay in supply of accessories. We are of the view that the time of 4 months, which was due to verification of the damaged material and payment of customs duty was beyond the control of the petitioner. Hence, the time over-run of only 4 months is condoned. The petitioner has not properly explained the reasons for time over-run beyond April, 2014 and has attributed to delay in supply of accessories. We are of the view that the petitioner should have taken steps for delivery of the accessories promptly and the petitioner cannot absolve itself of the time over-run due to delay in supply of accessories. Hence, we are not inclined to condone the delay beyond 4 months, i.e. April, 2014 in case of Assets I, II and III. In case of Asset-IV, it took approximately 35 months for the petitioner to obtain forest and wildlife clearance in Madhya Pradesh and this is very high in comparison to the MOEF normal stipulated time of 300 days for forest approval. We are of the view that the time taken for getting forest clearance in case of Asset-IV is beyond the petitioner and hence time over-run of 16 months and 12 days is condoned. The time over-run of 1 month and 6 days in case of Asset-V has been attributed to the time taken for getting forest clearance is beyond the petitioner and hence we condoned the time over-run in case of Asset V.



21. The Hon'ble Appellate Tribunal for Electricity in its Judgment dated 27.4.2011 in Appeal No.72/2010 has held that the additional cost due to time over-run due to the factors beyond the control of project developer shall be capitalized.

22. The time over-run of 4 months in commissioning of Asset-I, II and III, 16 months and 12 days in commissioning of Asset-IV and 1 month and 6 days in commissioning of Asset- V is beyond the control of the petitioner and it cannot be attributed to the petitioner. As per the judgement of Hon'ble Tribunal, the additional cost due to time over-run not attributable to the petitioner shall be capitalized. Accordingly, the time over-run in case of the instant assets is condoned and accordingly IDC and IEDC for the delay are allowed to be capitalised.

Assets name	SCOD as per IA dtd 17.3.2011	Actual Date of commercial operation	Delay in months	Delay condoned by the Commission	Delay not condoned by the Commission
Asset-I	1.4.2014	1.4.2015	12 months	4 months	8 months
Asset-II		2.8.2014	4 months	4 months	0 months
Asset-III		24.11.2014	7 months and 23 days	4 months	3 months and 23 days
Asset-IV		13.8.2015	16 months and 12 days	16 months and 12 days	0 months
Asset-V		7.5.2014	1 month and 6 days	1 month and 6 days	0 months

### **IDC and IEDC**

23. The petitioner was directed to provide the computation of IDC and IEDC on cash basis (i) from date of infusion of debt fund to scheduled COD and (ii) from scheduled COD to actual COD. In response, the petitioner vide its affidavit dated 22.2.2016 submitted the breakup of IDC and IEDC as follows:-



(₹ in lakh)

Statement showing IDC and IEDC	Asset-I		Asset-II		Asset-III	
	IDC	IEDC	IDC	IEDC	IDC	IEDC
Total IDC/IEDC as per certificate	222.91	34.24	268.06	43.86	205.20	59.83
IDC/IEDC discharged upto SCOD	53.45	0.07	152.26	0.19	112.77	0.40
IDC/IEDC discharged from SCOD to actual COD	169.46	34.17	115.8	43.67	92.43	59.43

(₹ in lakh)

Statement showing IDC & IEDC	Asset-IV		Asset-V	
	IDC	IEDC	IDC	IEDC
Total IDC/IEDC as per certificate	10091.72	992.04	2756.91	0.00
IDC/IEDC discharged upto SCOD	1972.42	10.73	2545.13	-21.53
IDC/IEDC discharged from SCOD to actual COD	8119.30	981.31	211.78	21.53

24. Further, the petitioner vide its affidavit dated 22.2.2016 has submitted the Auditor's Certificate for all the assets. In this regard, the the petitioner has submitted that entire IEDC amount mentioned in the Auditor's Certificate is on cash basis and is paid upto COD for all the assets. The petitioner has also submitted the details of IDC claimed on cash basis is as given below:-

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV	Asset-V	Total
IDC as per Certificate	222.91	268.06	205.20	10091.72	2756.91	13544.80
IDC discharged upto COD	183.39	244.80	140.81	8705.18	1567.15	10841.33
IDC discharged in 2014-15	0.00	21.77	29.82	0.00	1189.76	1241.35
IDC to be discharged in 2015-16	39.52	1.49	34.57	713.88	0.00	789.46
IDC to be discharged in 2016-17	0.00	0.00	0.00	672.66	0.00	672.66

25. As discussed above, we have disallowed the delay of 8 months in case of Asset-I and 3 months and 23 days in case of Asset-III. Further, overall delay of 4 months in case of Asset-II, 16 months and 12 days in case of Asset-IV and 1 month and 6 days in case of Asset-V has been condoned. Accordingly, we have worked out the IDC and IEDC as follows:-



(₹ in lakh)

Asset-I			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	365	365	
Total IDC/IEDC from date of infusion of debt fund to SCOD	53.45	0.07	53.52
Total IDC/IEDC from SCOD to COD (in ₹ lakh)	169.46	34.17	203.63
Total delay in days disallowed by the Commission	244	244	
IDC and IEDC disallowed (₹ lakh)	113.28	22.84	136.13
IDC and IEDC allowed by the Commission (₹ lakh)	109.63	11.40	121.02
<b>As worked out (after adjustment of above IDC/IEDC disallowed by the commission due to time-overrun):</b>			
Total IDC/IEDC upto COD	109.63	11.40	121.02
Accrued IDC and IEDC discharged in 2014-15	0.00	0.00	0.00
Accrued IDC and IEDC to be discharged in 2015-16	0.00	0.00	0.00
Accrued IDC and IEDC to be discharged in 2016-17	0.00	0.00	0.00

(₹ in lakh)

Asset-II			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	123	123	
Total IDC/IEDC from date of infusion of debt fund to SCOD	152.26	0.19	152.45
Total IDC/IEDC from SCOD to COD (in ₹ lakh)	115.80	43.67	159.47
Total delay in days disallowed by the Commission	0	0	
IDC and IEDC disallowed	0.00	0.00	0.00
IDC and IEDC allowed by the Commission	268.06	43.86	311.92
<b>As worked out (after adjustment of above IDC/IEDC disallowed by the commission due to time over-run):</b>			
Total IDC/IEDC upto COD	244.80	43.86	288.66
Accrued IDC and IEDC discharged in 2014-15	21.77	0.00	21.77
Accrued IDC and IEDC to be discharged in 2015-16	1.49	0.00	1.49
Accrued IDC and IEDC to be discharged in 2016-17	0.00	0.00	0.00

(₹ in lakh)

Asset-III			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	237	237	
Total IDC/IEDC from date of infusion of debt fund to SCOD	112.77	0.40	113.17
Total IDC/IEDC from SCOD to COD (₹ in lakh)	92.43	59.43	151.86
Total delay in days disallowed by the Commission	116	116	
IDC and IEDC disallowed	45.24	29.09	74.33
IDC and IEDC allowed by the Commission	159.96	30.74	190.70
<b>As worked out (after adjustment of above IDC and IEDC disallowed by the commission due to time over-run):</b>			



Total IDC/IEDC upto COD	140.81	30.74	171.55
Accrued IDC and IEDC discharged in 2014-15	19.15	0.00	19.15
Accrued IDC and IEDC to be discharged in 2015-16	0.00	0.00	0.00
Accrued IDC and IEDC to be discharged in 2016-17	0.00	0.00	0.00

(₹ in lakh)

Asset-IV			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	499	499	
Total IDC/IEDC from date of infusion of debt fund to SCOD	1972.42	10.73	1983.15
Total IDC/IEDC from SCOD to COD (₹ in lakh)	8119.30	981.31	9100.61
Total delay in months disallowed by the Commission	0	0	
IDC and IEDC disallowed	0.00	0.00	0.00
IDC and IEDC allowed by the Commission	10091.72	992.04	11083.76
<b>As worked out (after adjustment of above IDC and IEDC disallowed by the commission due to time over-run):</b>			
Total IDC/IEDC upto COD	8705.18	992.04	9697.22
Accrued IDC and IEDC discharged in 2014-15	0.00	0.00	0.00
Accrued IDC and IEDC to be discharged in 2015-16	713.88	0.00	713.88
Accrued IDC and IEDC to be discharged in 2016-17	672.66	0.00	672.66

(₹ in lakh)

Asset-V			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	36	36	
Total IDC/IEDC from date of infusion of debt fund to SCOD	2545.13	-21.53	2523.60
Total IDC/IEDC from SCOD to COD (₹ in lakh)	211.78	21.53	233.31
Total delay in months disallowed by the Commission	0	0	
IDC and IEDC disallowed	0.00	0.00	0.00
IDC and IEDC allowed by the Commission	2756.91	0.00	2756.91
<b>As worked out (after adjustment of above IDC and IEDC disallowed by the commission due to time over-run):</b>			
Total IDC/IEDC upto COD	1567.15	0.00	1567.15
Accrued IDC and IEDC discharged in 2014-15	1189.76	0.00	1189.76
Accrued IDC and IEDC to be discharged in 2015-16	0.00	0.00	0.00
Accrued IDC and IEDC to be discharged in 2016-17	0.00	0.00	0.00



## Initial Spares

26. 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:-

“(d) Transmission System	
Transmission line:	1.00%
Transmission sub-station (Green Field):	4.00%
Transmission sub-station (Brown Field):	6.00%”

27. The petitioner has claimed initial spares of ₹120.26 lakh, ₹270.79 lakh, ₹22.03 lakh and ₹4.50 lakh for Asset-I, II, III and IV, respectively, and ₹532.00 lakh and ₹345.00 lakh for Asset-IV and V, respectively, pertaining to transmission line. The details of the initial spares claimed and allowed for the assets covered in the instant petition are in the table given below:-

(₹ in lakh)

Description Sub-station (including PLCC)	Cut-off date	Capital cost as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 8 of the 2009 Tariff Regulation	Initial spares worked out and allowed	Excess initial spares claimed
		(a)	(b)	(c)	(d)= ((a-b)*c)/(100-c)%	(e)=(d)-(b)
<b>Transmission Line</b>						
Asset-IV	31.3.2018	53459.11	532.00	1.00%	534.62	0.00
Asset-V	31.3.2018	34651.96	345.00	1.00%	346.53	0.00
<b>Sub-station (Greenfield)</b>						
Asset-I	31.3.2018	2004.34	120.26	4.00%	78.50	41.76
Asset-II	31.3.2017	4574.59	270.79	4.00%	179.33	91.47
Asset-III	31.3.2017	2868.63	22.03	4.00%	118.61	0.00
Asset-IV	31.3.2018	4402.63	4.50	4.00%	183.26	0.00

28. The capital cost for Asset-I, II, III, IV and V has been worked out by adjusting IDC/IEDC and excess initial spares as given below:-





(₹ in lakh)					
Particulars	Asset-I	Asset-II	Asset-III	Asset-IV	Asset-V
Capital Cost as on COD as per Management Certificate/ Auditor's Certificate	1887.44	3256.30	2790.51	71196.01	37507.31
Total IDC/IEDC disallowed by the Commission	136.13	0.00	74.33	0.00	0.00
Accrued IDC and EDC discharged in 2014-15	0.00	21.77	19.15	0.00	1189.76
Accrued IDC and EDC to be discharged in 2015-16	0.00	1.49	0.00	713.88	0.00
Accrued IDC and EDC to be discharged in 2016-17	0.00	0.00	0.00	672.66	0.00
<b>Capital Cost as on COD (after deducting disallowed IDC/IEDC and accrual IDC to be discharged in 2014-17)</b>	<b>1751.31</b>	<b>3233.04</b>	<b>2697.03</b>	<b>69809.47</b>	<b>36317.55</b>
Excess Initial Spares (for transmission line)	0.00	0.00	0.00	0.00	0.00
Excess Initial Spares (for sub-station)	41.76	91.47	0.00	0.00	0.00
<b>Capital Cost as on COD (after deducting accrual IDC/IEDC and excess initial spares)</b>	<b>1709.56</b>	<b>3141.58</b>	<b>2697.03</b>	<b>69809.47</b>	<b>36317.55</b>

29. The estimated capital cost as on COD of ₹1709.56 lakh, ₹3141.58 lakh, ₹2697.03 lakh, ₹69809.47 lakh and ₹36317.55 lakh is within the approved apportioned cost of ₹2261.49 lakh, ₹5281.56 lakh, ₹3532.43 lakh, ₹75478.73 lakh and ₹40843.23 lakh for Assets-I, II, III, IV and V, respectively. Accordingly, capital cost as on COD is allowed and considered for the purpose of tariff computation for 2014-19 tariff period on provisional basis, which shall be trued up at the time of truing up of tariff for 2014-19 period.



### **Additional Capital Expenditure**

30. The petitioner has claimed additional capital expenditure for Asset-I to V, during 2014-19 tariff period, towards balance and retention payments under Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations.

31. Clause 1, sub-clause (i) of Regulation 14 of the 2014 Tariff Regulations provides as follows:

“(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

.....

(i) Undischarged liabilities recognized to be payable at a future date;

32. The Regulation 3(13) of the 2014 Tariff Regulations defines “cut-off” date as follows:-

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

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

Accordingly, the “cut-off” in case of Assets I, II, III, IV and V is 31.3.2018, 31.3.2017, 31.3.2017, 31.3.2018, 31.3.2018 and 31.3.2018 respectively.

33. The additional capital expenditure claimed by the petitioner during 2014-19 is within the “cut-off date” and it is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations. Further, the total capital cost (including additional capital expenditure) of all the assets is within the approved apportioned cost. The



additional capital expenditure allowed herein is subject to prudence check at the  
truing up of tariff for 2014-19 period.

(₹ in lakh)

Name of the element	Particulars	Approved Apportioned Cost	Expenditure upto COD*	Additional Capital Expenditure#				Total estimated completion cost
				2014-15	2015-16	2016-17	Total	
Asset-I	Petitioner's Claim	2261.49	1847.92 (=1847.44-39.52)	0.00	339.83 (=300.31+39.52)	73.74	413.57	2261.49
	Approved in this order	2261.49	1709.56	0.00	300.31 (=300.31+0.00)	73.74	374.05	2083.61
Asset-II	Petitioner's Claim	5281.56	3233.04 (=3256.30-21.77-1.49)	379.74 (=357.97+21.77)	707.57 (=706.08+1.49)	566.16	1653.47	4886.51
	Approved in this order	5281.56	3141.58	379.74 (=357.97+21.77)	707.57 (=706.08+1.49)	566.16	1653.47	4795.05
Asset-III	Petitioner's Claim	3532.43	2726.12 (=2790.51-29.82-34.57)	255.27 (225.45+29.82)	116.96 (=82.39+34.57)	35.31	407.54	3133.66
	Approved in this order	3532.43	2697.03	244.60 (225.45+19.15)	82.39 (=82.39+0.00)	35.31	362.30	3059.33
Asset-IV	Petitioner's Claim	75478.73	69809.47 (71196.01-713.88-672.66)	0.00	4367.63 (=3653.75+713.88)	1301.63 (=628.97+672.66)	5669.26	75478.73
	Approved in this order	75478.73	69809.47	0.00	4367.63 (=3653.75+713.88)	1301.63 (=628.97+672.66)	5669.26	75478.73
Asset-V	Petitioner's Claim	40843.23	36317.56 (=37507.32-1189.76)	3513.01 (=2323.25+1189.76)	717.58	294.73	4523.32	40842.88
	Approved in this order	40843.23	36317.55	3513.01 (=2323.25+1189.76)	717.58	294.73	4525.32	40842.87

\* Capital Cost after deducting accrued IDC discharged/to be discharged

# Additional capital expenditure after addition of IDC discharged/to be discharged in respective years

### **Debt: Equity Ratio**

34. Clause 3 of Regulation 19 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.”

35. The petitioner has considered debt:equity ratio as 70:30 both for capital cost as on COD and for additional capitalization during the tariff period 2014-19. The details of the debt:equity as on COD and for the additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset-I				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	1196.69	70.00	1458.53	70.00
Equity	512.87	30.00	625.08	30.00
<b>Total</b>	<b>1709.56</b>	<b>100.00</b>	<b>2083.61</b>	<b>100.00</b>

(₹ in lakh)

Asset-II				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	2199.10	70.00	3356.53	70.00
Equity	942.47	30.00	1438.51	30.00
<b>Total</b>	<b>3141.58</b>	<b>100.00</b>	<b>4795.05</b>	<b>100.00</b>

(₹ in lakh)

Asset-III				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	1887.92	70.00	2141.53	70.00
Equity	809.11	30.00	917.80	30.00
<b>Total</b>	<b>2697.03</b>	<b>100.00</b>	<b>3059.33</b>	<b>100.00</b>



(₹ in lakh)

Asset-IV				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	48866.63	70.00	52835.11	70.00
Equity	20942.84	30.00	22643.62	30.00
<b>Total</b>	<b>69809.47</b>	<b>100.00</b>	<b>75478.73</b>	<b>100.00</b>

(₹ in lakh)

Asset-V				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	25422.29	70.00	28590.01	70.00
Equity	10895.27	30.00	12252.86	30.00
<b>Total</b>	<b>36317.55</b>	<b>100.00</b>	<b>40842.87</b>	<b>100.00</b>

### Interest on Loan ("IOL")

36. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced 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.”

37. The weighted average rate of IOL has been considered on the basis of rate prevailing as on COD. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted at the time of truing up.



38. We have considered the petitioner's submissions. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be considered at the time of true up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)

Asset-I				
Details of Loan	2015-16	2016-17	2017-18	2018-19
Gross loan opening	1196.69	1406.91	1458.53	1458.53
Cumulative Repayment upto DOCO/previous year	0.00	98.19	206.26	316.28
Net Loan-Opening	1196.69	1308.71	1252.27	1142.25
Additions during the year	210.22	51.62	0.00	0.00
Repayment during the year	98.19	108.07	110.01	110.01
Net Loan-Closing	1308.71	1252.27	1142.25	1032.24
Average Loan	1252.70	1280.49	1197.26	1087.24
Rate of Interest (%)	9.5190	9.5297	9.5555	9.5871
<b>Interest</b>	<b>119.24</b>	<b>122.03</b>	<b>114.40</b>	<b>104.23</b>

(₹ in lakh)

Asset-II					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	2199.10	2464.92	2960.22	3356.53	3356.53
Cumulative Repayment upto DOCO/previous year	0.00	116.62	321.23	559.46	812.64
Net Loan-Opening	2199.10	2348.30	2638.99	2797.07	2543.89
Additions during the year	265.82	495.30	396.31	0.00	0.00
Repayment during the year	116.62	204.61	238.23	253.18	253.18
Net Loan-Closing	2348.30	2638.99	2797.07	2543.89	2290.71
Average Loan	2273.70	2493.64	2718.03	2670.48	2417.30
Rate of Interest (%)	8.3888	8.4604	8.6133	8.6842	8.6723
<b>Interest</b>	<b>126.46</b>	<b>210.97</b>	<b>234.11</b>	<b>231.91</b>	<b>209.64</b>



(₹ in lakh)

Asset-III					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	1887.92	2059.14	2116.82	2141.53	2141.53
Cumulative Repayment upto DOCO/previous year	0.00	52.20	209.70	370.30	531.83
Net Loan-Opening	1887.92	2006.94	1907.12	1771.24	1609.70
Additions during the year	171.22	57.67	24.72	0.00	0.00
Repayment during the year	52.20	157.49	160.60	161.53	161.53
Net Loan-Closing	2006.94	1907.12	1771.24	1609.70	1448.17
Average Loan	1947.43	1957.03	1839.18	1690.47	1528.94
Rate of Interest (%)	9.1964	9.1573	9.1559	9.1529	9.1498
<b>Interest</b>	<b>62.81</b>	<b>179.21</b>	<b>168.39</b>	<b>154.73</b>	<b>139.90</b>

(₹ in lakh)

Asset-IV				
Details of Loan	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	48866.63	51923.97	52835.11	52835.11
Cumulative Repayment upto DOCO/previous year	0.00	2410.12	6361.96	10348.17
Net Loan-Opening	48866.63	49513.85	46473.15	42486.94
Additions during the year	3057.34	911.14	0.00	0.00
Repayment during the year	2410.12	3951.84	3986.21	3986.21
Net Loan-Closing	49513.85	46473.15	42486.94	38500.73
Average Loan	49190.24	47993.50	44480.04	40493.83
Rate of Interest (%)	8.1019	8.2146	8.2516	8.2076
<b>Interest</b>	<b>2526.24</b>	<b>3942.46</b>	<b>3670.31</b>	<b>3323.58</b>

(₹ in lakh)

Asset-V					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	25422.29	27881.39	28383.70	28590.01	28590.01
Cumulative Repayment upto DOCO/previous year	0.00	1278.74	3402.36	5552.71	7710.83
Net Loan-Opening	25422.29	26602.65	24981.33	23037.30	20879.18
Additions during the year	2459.11	502.31	206.31	0.00	0.00
Repayment during the year	1278.74	2123.62	2150.34	2158.12	2158.12



Net Loan-Closing	26602.65	24981.33	23037.30	20879.18	18721.05
Average Loan	26012.47	25791.99	24009.32	21958.24	19800.12
Rate of Interest (%)	7.3971	7.5200	7.6771	7.7370	7.6709
<b>Interest</b>	<b>1734.39</b>	<b>1939.55</b>	<b>1843.21</b>	<b>1698.90</b>	<b>1518.84</b>

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

39. 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...

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:**

ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:"

**"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."





### **Additional Return on Equity**

40. The petitioner vide its affidavit dated 11.4.2016 submitted that the Asset-V (i.e., 765 kV S/C Bina-Gwalior 3rd circuit transmission line with COD as 7.5.2014) has been commissioned within the time-line specified in the Regulation 24(2)(iii) of the 2014 Tariff Regulations, wherein, it is provided that the qualifying time schedule shall be considered for the scheme as whole. Accordingly, the petitioner has claimed the additional ROE of 0.50% for Asset-V. However, in accordance with the Regulation 24(2)(iii) of the 2014 Tariff Regulations, the petitioner is also required to submit the certificate issued by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid, which is not provided by the petitioner. Accordingly, in absence of such a certificate from RLDC, we have not allowed the additional ROE of 0.50%. However, the petitioner is given the liberty to submit the certificate from the Regional Power Committee/National Power Committee clearly stating that commissioning of the particular element will benefit the system operation in the regional/national grid and claim the additional ROE of 0.50% at the time of truing-up.

41. The petitioner has computed ROE at the rate of 19.610% for 2014-15 for tariff period 2014-19 after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any



financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

42. 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.

43. We have computed ROE at the rate of 19.610% for tariff period 2014-19 after grossing up the ROE with MAT rate as per the above Regulation. 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. Accordingly, the ROE allowed is given below:-



(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Equity	512.87	602.96	625.08	625.08
Addition due to Additional Capitalisation	90.09	22.12	0.00	0.00
Closing Equity	602.96	625.08	625.08	625.08
Average Equity	557.91	614.02	625.08	625.08
Return on Equity (Base Rate ) (%)	15.50%	15.50%	15.50%	15.50%
MAT 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>109.41</b>	<b>120.41</b>	<b>122.58</b>	<b>122.58</b>

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	942.47	1056.39	1268.67	1438.51	1438.51
Addition due to Additional Capitalisation	113.92	212.27	169.85	0.00	0.00
Closing Equity	1056.39	1268.67	1438.51	1438.51	1438.51
Average Equity	999.43	1162.53	1353.59	1438.51	1438.51
Return on Equity (Base Rate ) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the year (%)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)(%)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre Tax)</b>	<b>129.94</b>	<b>227.97</b>	<b>265.44</b>	<b>282.09</b>	<b>282.09</b>

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	809.11	882.49	907.21	917.80	917.80
Addition due to Additional Capitalisation	73.38	24.72	10.59	0.00	0.00
Closing Equity	882.49	907.21	917.80	917.80	917.80
Average Equity	845.80	894.85	912.50	917.80	917.80
Return on Equity (Base Rate ) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>58.17</b>	<b>175.48</b>	<b>178.94</b>	<b>179.98</b>	<b>179.98</b>



(₹ in lakh)

Asset-IV				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	20942.84	22253.13	22643.62	22643.62
Addition due to Additional Capitalisation	1310.29	390.49	0.00	0.00
Closing Equity	22253.13	22643.62	22643.62	22643.62
Average Equity	21597.99	22448.37	22643.62	22643.62
Return on Equity (Base Rate ) (%)	15.500	15.500	15.500	15.500
MAT 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>2684.71</b>	<b>4402.13</b>	<b>4440.41</b>	<b>4440.41</b>

(₹ in lakh)

Asset-V					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	10895.27	11949.17	12164.44	12252.86	12252.86
Addition due to Additional Capitalisation	1053.90	215.27	88.42	0.00	0.00
Closing Equity	11949.17	12164.44	12252.86	12252.86	12252.86
Average Equity	11422.22	12056.81	12208.65	12252.86	12252.86
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>2018.98</b>	<b>2364.34</b>	<b>2394.12</b>	<b>2402.79</b>	<b>2402.79</b>

### Depreciation

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

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....

- (c) AC and DC Sub-station: 25 years
- (d) Gas Insulated Sub-station: 25 years
- (e) Transmission line (including HVAC & HVDC): 35 years”



45. 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."

46. The petitioner in its petition has computed depreciation considering capital cost as on COD of ₹1847.92 lakh, ₹3233.04 lakh, ₹2726.12 lakh, ₹69809.47 lakh and ₹36317.56 lakh for Assets-I, II, III, IV and V, respectively.

47. As per Clause 67 of Regulation 3 of the 2014 Tariff Regulations, weighted average value of asset as on COD has been considered to work out the weighted average life of the transmission system as 25 years for Asset-I, II & III, 34 years for Asset-IV and 35 years for Asset-V.

48. We have computed depreciation considering approved capital cost as on COD and allowed additional capitalisation. Depreciation is allowed as provided



under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1709.56	2009.87	2083.61	2083.61
Additional Capitalization	300.31	73.74	0.00	0.00
Closing Gross block	2009.87	2083.61	2083.61	2083.61
Average Gross block	1859.71	2046.74	2083.61	2083.61
Rate of Depreciation (%)	5.280%	5.280%	5.280%	5.280%
Depreciable Value	1673.74	1842.06	1875.25	1875.25
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	25	24	23	22
Remaining Depreciable Value	1673.74	1743.87	1668.99	1558.97
<b>Depreciation</b>	<b>98.19</b>	<b>108.07</b>	<b>110.01</b>	<b>110.01</b>

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	3141.58	3521.32	4228.89	4795.05	4795.05
Additional Capitalization	379.74	707.57	566.16	0.00	0.00
Closing Gross block	3521.32	4228.89	4795.05	4795.05	4795.05
Average Gross block	3331.45	3875.10	4511.97	4795.05	4795.05
Rate of Depreciation (%)	5.280%	5.280%	5.280%	5.280%	5.280%
Depreciable Value	2998.30	3487.59	4060.77	4315.54	4315.54
Elapsed Life of the asset at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	2998.30	3370.97	3739.54	3756.08	3502.90
<b>Depreciation</b>	<b>116.62</b>	<b>204.61</b>	<b>238.23</b>	<b>253.18</b>	<b>253.18</b>



(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	2697.03	2941.63	3024.02	3059.33	3059.33
Additional Capitalization	244.60	82.39	35.31	0.00	0.00
Closing Gross block	2941.63	3024.02	3059.33	3059.33	3059.33
Average Gross block	2819.33	2982.83	3041.68	3059.33	3059.33
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	2537.40	2684.54	2737.51	2753.40	2753.40
Elapsed Life of the asset at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	2537.40	2632.34	2527.81	2383.10	2221.57
<b>Depreciation</b>	<b>52.20</b>	<b>157.49</b>	<b>160.60</b>	<b>161.53</b>	<b>161.53</b>

(₹ in lakh)

Asset-IV				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	69809.47	74177.10	75478.73	75478.73
Additional Capitalization	4367.63	1301.63	0.00	0.00
Closing Gross block	74177.10	75478.73	75478.73	75478.73
Average Gross block	71993.29	74827.92	75478.73	75478.73
Rate of Depreciation (%)	5.281	5.281	5.281	5.281
Depreciable Value	64793.96	67345.12	67930.86	67930.86
Elapsed Life of the asset at beginning of the year	0	1	2	3
Weighted Balance Useful life of the asset	34	33	32	31
Remaining Depreciable Value	64793.96	64935.01	61568.90	57582.68
<b>Depreciation</b>	<b>2410.12</b>	<b>3951.84</b>	<b>3986.21</b>	<b>3986.21</b>

(₹ in lakh)

Asset-V					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	36317.55	39830.56	40548.14	40842.87	40842.87
Additional Capitalization	3513.01	717.58	294.73	0.00	0.00
Closing Gross block	39830.56	40548.14	40842.87	40842.87	40842.87



Asset-V					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Average Gross block	38074.06	40189.35	40695.51	40842.87	40842.87
Rate of Depreciation (%)	5.284	5.284	5.284	5.284	5.284
Depreciable Value	34266.65	36170.42	36625.95	36758.58	36758.58
Elapsed Life of the asset at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the asset	35	34	33	32	31
Remaining Depreciable Value	34266.65	34891.67	33223.59	31205.88	29047.75
<b>Depreciation</b>	<b>1278.74</b>	<b>2123.62</b>	<b>2150.34</b>	<b>2158.12</b>	<b>2158.12</b>

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

49. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations.

50. We have considered the petitioner’s submission. The petitioner’s entitlement of O&M Expenses has been worked out as given hereunder:-

(₹ in lakh)

Asset-I					
Particulars		2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	1	1	1	1
Norms as per Regulation	765 kV bay ((₹lakh/bay))	87.22	90.12	93.11	96.20
<b>Total</b>		<b>87.22</b>	<b>90.12</b>	<b>93.11</b>	<b>96.20</b>

(₹ in lakh)

Asset-II						
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	1	1	1	1	1
Norms as per Regulation	765 kV bay ((₹lakh/bay))	84.42	87.22	90.12	93.11	96.20
<b>Total</b>		<b>55.97</b>	<b>87.22</b>	<b>90.12</b>	<b>93.11</b>	<b>96.20</b>





(₹ in lakh)

Asset-III						
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	2	2	2	2	2
Norms as per Regulation	765 kV bay (₹lakh/bay)	84.42	87.22	90.12	93.11	96.20
<b>Total</b>		<b>59.21</b>	<b>174.44</b>	<b>180.24</b>	<b>186.22</b>	<b>192.40</b>

(₹ in lakh)

Asset-IV					
Particulars		2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Actual line length (km)	Single Circuit (Bundled Conductor with four sub-conductors)	311.70	311.70	311.70	311.70
Actual (No. of bays)	765 kV bay	1	1	1	1
Norms as per Regulation	Single Circuit (Bundled Conductor with four sub-conductors) (₹lakh/km)	0.627	0.647	0.669	0.691
	765 kV bay (₹lakh/bay)	87.22	90.12	93.11	96.20
<b>Total</b>		<b>179.17</b>	<b>291.79</b>	<b>301.64</b>	<b>311.58</b>

(₹ in lakh)

Asset-V						
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual line length (km)	Single Circuit (Bundled Conductor with four sub-conductors)	231.27	231.27	231.27	231.27	231.27
Norms as per Regulation	Single Circuit (Bundled Conductor with four sub-conductors) (₹lakh/km)	0.606	0.627	0.647	0.669	0.691
<b>Total</b>		<b>126.33</b>	<b>145.01</b>	<b>149.63</b>	<b>154.72</b>	<b>159.81</b>

51. 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.

52. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

53. The details of O&M Expenses allowed are given hereunder:-

Particulars	(₹ in lakh)				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-I	0.00	87.22	90.12	93.11	96.20
Asset-II	55.97	87.22	90.12	93.11	96.20
Asset-III	59.21	174.44	180.24	186.22	192.40
Asset-IV	0.00	179.17 (Pro-rata)	291.79	301.64	311.58
Asset-V	126.33	145.01	149.63	154.72	159.81

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

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

#### **(i) Receivables**

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target



availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

**(ii) Maintenance Spares**

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

**(iii) O & M Expenses**

Regulation 28 (1) (c) (iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

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

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the Bank Rate' means the base rate of interest as specified by the



State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

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

(₹ in lakh)

Asset-I				
Particulars	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	13.08	13.52	13.97	14.43
O & M expenses	7.27	7.51	7.76	8.02
Receivables	71.07	75.61	75.54	74.35
Total	91.42	96.64	97.27	96.80
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>12.34</b>	<b>13.05</b>	<b>13.13</b>	<b>13.07</b>

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	8.40	13.08	13.52	13.97	14.43
O & M expenses	4.66	7.27	7.51	7.76	8.02
Receivables	73.45	125.07	141.64	147.18	143.93
Total	86.51	145.42	162.67	168.91	166.37
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>11.68</b>	<b>19.63</b>	<b>21.96</b>	<b>22.80</b>	<b>22.46</b>

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	8.88	26.17	27.04	27.93	28.86
O & M expenses	4.93	14.54	15.02	15.52	16.03
Receivables	39.94	118.01	118.30	117.36	115.92
Total	53.76	158.71	160.36	160.81	160.81
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>7.26</b>	<b>21.43</b>	<b>21.65</b>	<b>21.71</b>	<b>21.71</b>



(₹ in lakh)

Asset-IV				
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	26.88	43.77	45.25	46.74
O & M expenses	14.93	24.32	25.14	25.97
Receivables	1330.93	2147.90	2115.61	2058.25
Total	1372.73	2215.98	2186.00	2130.95
Rate of Interest (%)	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>185.32</b>	<b>299.16</b>	<b>295.11</b>	<b>287.68</b>

(₹ in lakh)

Asset-V					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	18.95	21.75	22.44	23.21	23.97
O & M expenses	10.53	12.08	12.47	12.89	13.32
Receivables	880.21	1121.41	1115.43	1094.53	1064.72
Total	909.68	1155.25	1150.35	1130.63	1102.01
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>122.81</b>	<b>155.96</b>	<b>155.30</b>	<b>152.63</b>	<b>148.77</b>

### Annual Transmission Charges

56. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)

Particulars	Asset-I			
	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>				
Opening Gross Block	1709.56	2009.87	2083.61	2083.61
Additional Capitalisation	300.31	73.74	0.00	0.00
Closing Gross Block	2009.87	2083.61	2083.61	2083.61
Average Gross Block	1859.71	2046.74	2083.61	2083.61
Rate of Depreciation	5.280	5.280	5.280	5.280
Depreciable Value	1673.74	1842.06	1875.25	1875.25
Elapsed Life of the assets at beginning of the year	0.00	1.00	2.00	3.00
Weighted Balance Useful life of the assets	25.00	24.00	23.00	22.00
Remaining Depreciable Value	1673.74	1743.87	1668.99	1558.97



Particulars	Asset-I			
	2015-16	2016-17	2017-18	2018-19
Depreciation	98.19	108.07	110.01	110.01
<b>Interest on Loan</b>				
Gross Normative Loan	1196.69	1406.91	1458.53	1458.53
Cumulative Repayment upto Previous Year	0.00	98.19	206.26	316.28
Net Loan-Opening	1196.69	1308.71	1252.27	1142.25
Additions	210.22	51.62	0.00	0.00
Repayment during the year	98.19	108.07	110.01	110.01
Net Loan-Closing	1308.71	1252.27	1142.25	1032.24
Average Loan	1252.70	1280.49	1197.26	1087.24
Weighted Average Rate of Interest on Loan (%)	9.5190	9.5297	9.5555	9.5871
Interest	119.24	122.03	114.40	104.23
<b>Return on Equity</b>				
Opening Equity	512.87	602.96	625.08	625.08
Additions	90.09	22.12	0.00	0.00
Closing Equity	602.96	625.08	625.08	625.08
Average Equity	557.91	614.02	625.08	625.08
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)	109.41	120.41	122.58	122.58
<b>Interest on Working Capital</b>				
Maintenance Spares	13.08	13.52	13.97	14.43
O & M expenses	7.27	7.51	7.76	8.02
Receivables	71.07	75.61	75.54	74.35
Total	91.42	96.64	97.27	96.80
Interest	12.34	13.05	13.13	13.07
<b>Annual Transmission Charges</b>				
Depreciation	98.19	108.07	110.01	110.01
Interest on Loan	119.24	122.03	114.40	104.23
Return on Equity	109.41	120.41	122.58	122.58
Interest on Working Capital	12.34	13.05	13.13	13.07
O & M Expenses	87.22	90.12	93.11	96.20
<b>Total</b>	<b>426.41</b>	<b>453.67</b>	<b>453.24</b>	<b>446.10</b>

(₹ in lakh)

Particulars	Asset-II				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Opening Gross Block	3141.58	3521.32	4228.89	4795.05	4795.05



Particulars	Asset-II				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Additional Capitalisation	379.74	707.57	566.16	0.00	0.00
Closing Gross Block	3521.32	4228.89	4795.05	4795.05	4795.05
Average Gross Block	3331.45	3875.10	4511.97	4795.05	4795.05
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	2998.30	3487.59	4060.77	4315.54	4315.54
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	2998.30	3370.97	3739.54	3756.08	3502.90
Depreciation	116.62	204.61	238.23	253.18	253.18
<b>Interest on Loan</b>					
Gross Normative Loan	2199.10	2464.92	2960.22	3356.53	3356.53
Cumulative Repayment upto Previous Year	0.00	116.62	321.23	559.46	812.64
Net Loan-Opening	2199.10	2348.30	2638.99	2797.07	2543.89
Additions	265.82	495.30	396.31	0.00	0.00
Repayment during the year	116.62	204.61	238.23	253.18	253.18
Net Loan-Closing	2348.30	2638.99	2797.07	2543.89	2290.71
Average Loan	2273.70	2493.64	2718.03	2670.48	2417.30
Weighted Average Rate of Interest on Loan (%)	8.3888	8.4604	8.6133	8.6842	8.6723
Interest	126.46	210.97	234.11	231.91	209.64
<b>Return on Equity</b>					
Opening Equity	942.47	1056.39	1268.67	1438.51	1438.51
Additions	113.92	212.27	169.85	0.00	0.00
Closing Equity	1056.39	1268.67	1438.51	1438.51	1438.51
Average Equity	999.43	1162.53	1353.59	1438.51	1438.51
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	129.94	227.97	265.44	282.09	282.09
<b>Interest on Working Capital</b>					
Maintenance Spares	8.40	13.08	13.52	13.97	14.43
O & M expenses	4.66	7.27	7.51	7.76	8.02
Receivables	73.45	125.07	141.64	147.18	143.93
Total	86.51	145.42	162.67	168.91	166.37
Interest	11.68	19.63	21.96	22.80	22.46
<b>Annual Transmission Charges</b>					
Depreciation	116.62	204.61	238.23	253.18	253.18



Particulars	Asset-II				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Interest on Loan	126.46	210.97	234.11	231.91	209.64
Return on Equity	129.94	227.97	265.44	282.09	282.09
Interest on Working Capital	11.68	19.63	21.96	22.80	22.46
O & M Expenses	55.97	87.22	90.12	93.11	96.20
<b>Total</b>	<b>440.68</b>	<b>750.40</b>	<b>849.86</b>	<b>883.09</b>	<b>863.57</b>

(₹ in lakh)

Particulars	Asset-III				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Opening Gross Block	2697.03	2941.63	3024.02	3059.33	3059.33
Additional Capitalisation	244.60	82.39	35.31	0.00	0.00
Closing Gross Block	2941.63	3024.02	3059.33	3059.33	3059.33
Average Gross Block	2819.33	2982.83	3041.68	3059.33	3059.33
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	2537.40	2684.54	2737.51	2753.40	2753.40
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	2537.40	2632.34	2527.81	2383.10	2221.57
Depreciation	52.20	157.49	160.60	161.53	161.53
<b>Interest on Loan</b>					
Gross Normative Loan	1887.92	2059.14	2116.82	2141.53	2141.53
Cumulative Repayment upto Previous Year	0.00	52.20	209.70	370.30	531.83
Net Loan-Opening	1887.92	2006.94	1907.12	1771.24	1609.70
Additions	171.22	57.67	24.72	0.00	0.00
Repayment during the year	52.20	157.49	160.60	161.53	161.53
Net Loan-Closing	2006.94	1907.12	1771.24	1609.70	1448.17
Average Loan	1947.43	1957.03	1839.18	1690.47	1528.94
Weighted Average Rate of Interest on Loan (%)	9.1964	9.1573	9.1559	9.1529	9.1498
Interest	62.81	179.21	168.39	154.73	139.90
<b>Return on Equity</b>					
Opening Equity	809.11	882.49	907.21	917.80	917.80
Additions	73.38	24.72	10.59	0.00	0.00
Closing Equity	882.49	907.21	917.80	917.80	917.80
Average Equity	845.80	894.85	912.50	917.80	917.80
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610





Particulars	Asset-III				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Return on Equity (Pre Tax)	58.17	175.48	178.94	179.98	179.98
<b>Interest on Working Capital</b>					
Maintenance Spares	8.88	26.17	27.04	27.93	28.86
O & M expenses	4.93	14.54	15.02	15.52	16.03
Receivables	39.94	118.01	118.30	117.36	115.92
Total	53.76	158.71	160.36	160.81	160.81
Interest	7.26	21.43	21.65	21.71	21.71
<b>Annual Transmission Charges</b>					
Depreciation	52.20	157.49	160.60	161.53	161.53
Interest on Loan	62.81	179.21	168.39	154.73	139.90
Return on Equity	58.17	175.48	178.94	179.98	179.98
Interest on Working Capital	7.26	21.43	21.65	21.71	21.71
O & M Expenses	59.21	174.44	180.24	186.22	192.40
<b>Total</b>	<b>239.64</b>	<b>708.05</b>	<b>709.82</b>	<b>704.17</b>	<b>695.52</b>

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
<b>Gross Block</b>				
Opening Gross Block	69809.47	74177.10	75478.73	75478.73
Additional Capitalisation	4367.63	1301.63	0.00	0.00
Closing Gross Block	74177.10	75478.73	75478.73	75478.73
Average Gross Block	71993.29	74827.92	75478.73	75478.73
Rate of Depreciation	5.281	5.281	5.281	5.281
Depreciable Value	64793.96	67345.12	67930.86	67930.86
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	34	33	32	31
Remaining Depreciable Value	64793.96	64935.01	61568.90	57582.68
Depreciation	2410.12	3951.84	3986.21	3986.21
<b>Interest on Loan</b>				
Gross Normative Loan	48866.63	51923.97	52835.11	52835.11
Cumulative Repayment upto Previous Year	0.00	2410.12	6361.96	10348.17
Net Loan-Opening	48866.63	49513.85	46473.15	42486.94
Additions	3057.34	911.14	0.00	0.00
Repayment during the year	2410.12	3951.84	3986.21	3986.21
Net Loan-Closing	49513.85	46473.15	42486.94	38500.73
Average Loan	49190.24	47993.50	44480.04	40493.83



Particulars	Asset-IV			
	2015-16 (Pro-rata)	2016-17	2017-18	2018-19
Weighted Average Rate of Interest on Loan (%)	8.1019	8.2146	8.2516	8.2076
Interest	2526.24	3942.46	3670.31	3323.58
<b>Return on Equity</b>				
Opening Equity	20942.84	22253.13	22643.62	22643.62
Additions	1310.29	390.49	0.00	0.00
Closing Equity	22253.13	22643.62	22643.62	22643.62
Average Equity	21597.99	22448.37	22643.62	22643.62
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
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)	2684.71	4402.13	4440.41	4440.41
<b>Interest on Working Capital</b>				
Maintenance Spares	26.88	43.77	45.25	46.74
O & M expenses	14.93	24.32	25.14	25.97
Receivables	1330.93	2147.90	2115.61	2058.25
Total	1372.73	2215.98	2186.00	2130.95
Interest	185.32	299.16	295.11	287.68
<b>Annual Transmission Charges</b>				
Depreciation	2410.12	3951.84	3986.21	3986.21
Interest on Loan	2526.24	3942.46	3670.31	3323.58
Return on Equity	2684.71	4402.13	4440.41	4440.41
Interest on Working Capital	185.32	299.16	295.11	287.68
O & M Expenses	179.17	291.79	301.64	311.58
<b>Total</b>	<b>7985.55</b>	<b>12887.38</b>	<b>12693.69</b>	<b>12349.47</b>

(₹ in lakh)

Particulars	Asset-V				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Opening Gross Block	36317.55	39830.56	40548.14	40842.87	40842.87
Additional Capitalisation	3513.01	717.58	294.73	0.00	0.00
Closing Gross Block	39830.56	40548.14	40842.87	40842.87	40842.87
Average Gross Block	38074.06	40189.35	40695.51	40842.87	40842.87
Rate of Depreciation	5.284	5.284	5.284	5.284	5.284
Depreciable Value	34266.65	36170.42	36625.95	36758.58	36758.58
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	35	34	33	32	31
Remaining Depreciable Value	34266.65	34891.67	33223.59	31205.88	29047.75



Particulars	Asset-V				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	1278.74	2123.62	2150.34	2158.12	2158.12
<b>Interest on Loan</b>					
Gross Normative Loan	25422.29	27881.39	28383.70	28590.01	28590.01
Cumulative Repayment upto Previous Year	0.00	1278.74	3402.36	5552.71	7710.83
Net Loan-Opening	25422.29	26602.65	24981.33	23037.30	20879.18
Additions	2459.11	502.31	206.31	0.00	0.00
Repayment during the year	1278.74	2123.62	2150.34	2158.12	2158.12
Net Loan-Closing	26602.65	24981.33	23037.30	20879.18	18721.05
Average Loan	26012.47	25791.99	24009.32	21958.24	19800.12
Weighted Average Rate of Interest on Loan (%)	7.40	7.52	7.68	7.74	7.67
Interest	1734.39	1939.55	1843.21	1698.90	1518.84
<b>Return on Equity</b>					
Opening Equity	10895.27	11949.17	12164.44	12252.86	12252.86
Additions	1053.90	215.27	88.42	0.00	0.00
Closing Equity	11949.17	12164.44	12252.86	12252.86	12252.86
Average Equity	11422.22	12056.81	12208.65	12252.86	12252.86
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	2018.98	2364.34	2394.12	2402.79	2402.79
<b>Interest on Working Capital</b>					
Maintenance Spares	18.95	21.75	22.44	23.21	23.97
O & M expenses	10.53	12.08	12.47	12.89	13.32
Receivables	880.21	1121.41	1115.43	1094.53	1064.72
Total	909.68	1155.25	1150.35	1130.63	1102.01
Interest	122.81	155.96	155.30	152.63	148.77
<b>Annual Transmission Charges</b>					
Depreciation	1278.74	2123.62	2150.34	2158.12	2158.12
Interest on Loan	1734.39	1939.55	1843.21	1698.90	1518.84
Return on Equity	2018.98	2364.34	2394.12	2402.79	2402.79
Interest on Working Capital	122.81	155.96	155.30	152.63	148.77
O & M Expenses	126.33	145.01	149.63	154.72	159.81
<b>Total</b>	<b>5281.24</b>	<b>6728.47</b>	<b>6692.60</b>	<b>6567.17</b>	<b>6388.33</b>



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

57. 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.

### **Foreign Exchange Rate Variation**

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

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

59. 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**

60. 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 is premature.

### **Sharing of Transmission Charges**

61. 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.

62. This order disposes of Petition No. 422/TT/2014.

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

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



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO**

(₹ in lakh)

Particulars	ASSET-I			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XL-Doco loan 1	9.30	300.00	0.00	300.00
BOND XLI-Doco loan 2	8.85	389.00	0.00	389.00
BOND XLIII-Doco loan 3	7.93	50.00	0.00	50.00
SBI (2014-15)- loan 4	10.25	554.55	0.00	554.55
<b>Total</b>		<b>1293.55</b>	<b>0.00</b>	<b>1293.55</b>

(₹ in lakh)

Particulars	ASSET-II			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVII-loan 1	9.25	215.00	0.00	215.00
BOND XXXIX-loan 2	9.40	175.00	0.00	175.00
SBI (21.3.2012)-loan 3	10.25	225.00	0.00	225.00
BOND-XL-loan 4	9.30	335.00	0.00	335.00
BOND-XLI-loan 5	8.85	10.00	0.00	10.00
BOND-XLII-loan 6	8.80	20.00	0.00	20.00
IFC (IFC - B loan) (31419-01)-loan 7-61.26	2.38	134.16	0.00	134.16
IFC (ICFF loan) (31419-02)-loan 8-61.26	3.23	55.75	0.00	55.75
FC - BOND (17.1.2013)- loan 9-61.26	4.10	297.72	0.00	297.72
BOND - XLIII-Doco loan 10	7.93	50.00	0.00	50.00
BOND XLIV-loan 11	8.70	50.00	0.00	50.00
SBI (2014-15)- addcap for 2014-15loan 14 (accrual IDC)	10.25	0.00	15.24	15.24
SBI (2014-15) -loan 12	10.25	695.49	0.00	695.49
BOND XLIX - addcap for 2014-15 loan 13	8.15	0.00	250.58	250.58
<b>Total</b>		<b>2263.12</b>	<b>265.82</b>	<b>2528.94</b>



(₹ in lakh)

Particulars	ASSET-III			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XL-Doco loan 1	9.30	500.00	0.00	500.00
BOND XLII-Doco loan 2	8.80	470.00	0.00	470.00
SBI (2014-15)- loan 3	10.25	125.00	0.00	125.00
BOND XLVI- addcap for 2014-15 loan 6 (Accrual IDC)	9.30	0.00	20.87	20.87
BOND XLVI- loan 4	9.30	813.29	0.00	813.29
BOND XLIX - addcap for 2014-15 loan 5	8.15	0.00	157.82	157.82
<b>Total</b>		<b>1908.29</b>	<b>178.69</b>	<b>2086.98</b>

(₹ in lakh)

Particulars	ASSET-IV			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVII-loan 1	9.25	2156.00	0.00	2156.00
BOND XXXIX-loan 2	9.40	1295.00	0.00	1295.00
SBI (21.3.2012)-loan 3	9.95	5513.00	0.00	5513.00
BOND-XL-loan 4	9.30	10157.00	0.00	10157.00
BOND-XLII-loan 5	8.80	519.00	0.00	519.00
IFC (IFC - B loan) (31419-01)-loan 6-65.23	3.23	2609.20	0.00	2609.20
IFC (ICFF loan) (31419-02)-loan 8-61.26	3.23	978.45	0.00	978.45
FC - BOND (17.1.2013)- loan 9-61.26	4.10	5218.40	0.00	5218.40
BOND - XLIII-Doco loan 9	7.93	7400.00	0.00	7400.00
BOND XLIV-loan 10	8.70	5717.45	0.00	5717.45
SBI (2014-15) -loan 11	9.95	200.00	0.00	200.00
BOND XLVI - loan 12	9.30	2000.00	0.00	2000.00
BOND XLVII - loan 13	8.93	3757.75	0.00	3757.75
Proposed loan 2015-16 (8.40%)- loan 14	8.40	1345.38	0.00	1345.38
<b>Total</b>		<b>48866.63</b>	<b>0.00</b>	<b>48866.63</b>



(₹ in lakh)

Particulars	ASSET-V			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVII-loan 1	9.25	2110.00	0.00	2110.00
BOND XXXIX-loan 2	9.40	1070.00	0.00	1070.00
SBI (21.3.2012)-loan 3	10.25	1640.00	0.00	1640.00
BOND-XL-loan 4	9.30	3390.00	0.00	3390.00
BOND-XLI-loan 5	8.85	110.00	0.00	110.00
BOND-XLII-loan 6	8.80	275.00	0.00	275.00
IFC (IFC - B loan) (31419-01)-loan 7-61.26	2.38	1887.13	0.00	1887.13
IFC (ICFF loan) (31419-02)-loan 8-61.26	3.23	783.73	0.00	783.73
FC - BOND (17.1.2013)- loan 9-61.26	4.10	4218.30	0.00	4218.30
BOND - XLIII-Doco loan 10	7.93	6730.00	0.00	6730.00
BOND XLIV-loan 11	8.70	3208.14	0.00	3208.14
BOND XLIV-loan 13 (accrual IDC)	8.70	832.83	832.83	1665.66
BOND XLIX - loan 12	8.15	1626.28	1626.28	3252.56
<b>Total</b>		<b>27881.41</b>	<b>2459.11</b>	<b>30340.52</b>

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

(₹ in lakh)

Particulars	ASSET-I			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1293.55	1293.55	1293.55	1293.55
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	57.42	119.01
Net Loans Opening	1293.55	1293.55	1236.13	1174.54
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	57.42	61.59	61.59
Net Closing Loan	1293.55	1236.13	1174.54	1112.95
Average Net Loan	1293.55	1264.84	1205.34	1143.75
Interest on Loan	123.13	120.54	115.18	109.65
Rate of Interest on Loan (%)	9.5190	9.5297	9.5555	9.5871





(₹ in lakh)

Particulars	ASSET-II				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2263.12	2528.94	2528.94	2528.94	2528.94
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	85.00	219.20	296.06
Net Loans Opening	2263.12	2528.94	2443.94	2309.74	2232.88
Add: Drawl(s) during the year	265.82	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	85.00	134.20	76.86	93.53
Net Closing Loan	2528.94	2443.94	2309.74	2232.88	2139.35
Average Net Loan	2396.03	2486.44	2376.84	2271.31	2186.12
Interest on Loan	201.00	210.36	204.72	197.25	189.59
Rate of Interest on Loan (%)	8.3888	8.4604	8.6133	8.6842	8.6723

(₹ in lakh)

Particulars	ASSET-III				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1908.29	2086.98	2086.98	2086.98	2086.98
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	41.67	83.34
Net Loans Opening	1908.29	2086.98	2086.98	2045.31	2003.64
Add: Drawl(s) during the year	178.69	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	0.00	41.67	41.67	41.67
Net Closing Loan	2086.98	2086.98	2045.31	2003.64	1961.97
Average Net Loan	1997.64	2086.98	2066.15	2024.48	1982.81
Interest on Loan	183.71	191.11	189.17	185.30	181.42
Rate of Interest on Loan (%)	9.1964	9.1573	9.1559	9.1529	9.1498

(₹ in lakh)

Particulars	ASSET-IV			
	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	48866.63	48866.63	48866.63	48866.63
Cumulative Repayments of Loans upto Previous Year	0.00	1484.27	4316.14	6557.93
Net Loans Opening	48866.63	47382.36	44550.49	42308.70
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	1484.27	2831.87	2241.79	4460.76



Particulars	ASSET-IV			
	2015-16	2016-17	2017-18	2018-19
Net Closing Loan	47382.36	44550.49	42308.70	37847.94
Average Net Loan	48124.50	45966.43	43429.60	40078.32
Interest on Loan	3899.01	3775.95	3583.63	3289.48
Rate of Interest on Loan (%)	8.1019	8.2146	8.2516	8.2076

**(₹ in lakh)**

Particulars	ASSET-V				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	25422.30	27881.41	27881.41	27881.41	27881.41
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	1119.40	2679.56	3935.35
Net Loans Opening	25422.30	27881.41	26762.01	25201.85	23946.06
Add: Drawl(s) during the year	2459.11	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	1119.40	1560.16	1255.79	2602.78
Net Closing Loan	27881.41	26762.01	25201.85	23946.06	21343.28
Average Net Loan	26651.86	27321.71	25981.93	24573.96	22644.67
Interest on Loan	1971.46	2054.59	1994.65	1901.28	1737.05
Rate of Interest on Loan (%)	7.3971	7.5200	7.6771	7.7370	7.6709

