

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 68/TT/2016**

**Coram:**

**Shri A.S. Bakshi, Member**

**Dr.M.K.Iyer, Member**

**Date of Hearing : 11.07.2016**

**Date of Order : 29.07.2016**

**In the matter of:**

Determination of transmission tariff for **Assets (4 nos)** under Transmission System for "Transfer of power from Generation Projets in Sikkim to NR/WR Part-B" in Eastern Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

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

.....**Petitioner**

**Versus**

1. Gati Infrastructure Chuzachen Limited.  
1-7-293, MG Road, 268, Udyog Vihar, Phase-IV,  
Secunderabad, Andhra Pradesh - 500003
2. Gati Infrastructure Bhasmay Power Limited.  
1-7-293, MG Road, 268, Udyog Vihar, Phase-IV,  
Secunderabad, Andhra Pradesh - 500003
3. PTC INDIA Limited.  
2nd Floor, NBCC Tower  
15, Bhikaji Cama Palace,  
New Delhi



4. LANCO ENERGY Pvt.Limited,  
Plot No. 397, 2nd Floor,  
Udyog Vihar , Phase III,  
Gurgaon, Haryana- 122016
5. DANS Energy Private Limited,  
5th Floor, DLF Building No. 8, Tower C,  
DLF Cyber City Phase- II  
Gurgaon, Haryana- 122002
6. JAL Power Corporation Limited,  
405-406, Raja House, 30-31,  
Nehru Place, New Delhi- 110019
7. Madhya Bharat Power Corporation Limited.  
NH-31-A, Golitar, Singtam,  
Gangtok -737134, Sikkim
8. Bihar State Power (Holding) Company Limited  
(formerly Bihar State Electricity Board -BSEB)  
Vidyut Bhavan, Bailey Road, Patna – 800001
9. West Bengal State Electricity Distribution Company  
BidyutBhawan, Bidhan Nagar  
Block DJ, Sector-II, Salt Lake City  
Calcutta - 700091
10. Grid Corporation of Orissa Limited.  
ShahidNagar, Bhubaneswar - 751007
11. Damodar Valley Corporation  
DVC Tower, Maniktala  
Civic centre, VIP Road, Calcutta - 700054
12. Power department  
Government of Sikkim, Gangtok - 737 101
13. Jharkhand State Electricity Board  
In Front of Main Secretariat  
Doranda, Ranchi - 834002

....Respondents



The following were present:-

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

**For Respondent:** Shri Sakya Singha Chaudhari, Advocate, LANCO Teesta  
Hydro Power Private Limited  
Ms. Molshree Bhatnagar, Advocate, LANCO Teesta Hydro  
Power Private Limited

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for Termination of Gangtok-Rangpo/Chujachen and Melli- Rangpo/Chujachen Line at Rangpo and associated bays at Rangpo Sub-station, LILO of 400 kV D/C Teesta V- Siliguri Line (Ckt-I) at Rangpo and associated bays alongwith 1 No, 400 kV Bus Coupler bay at Rangpo Sub-station, 01 no. 3X105 MVA Single Phase 400/220 kV Transformer (1st) and associated bays alongwith 1 No. 1X105 MVA Single Phase, 400/220 kV Spare Transformer at Rangpo Sub-station, and One no. 100 MVA 220/132 kV Transformer (1st) and associated bays alongwith 01 number 132 kV Bus Coupler Bay and 01 number 132 kV Bus Sectionaliser bay at Rangpo Sub-station (hereinafter referred to as "Asset 1"); LILO of 132 kV S/C Gangtok-Rangit Line at Rangpo and associated bays at Rangpo Sub-station (hereinafter referred to as "Asset 2"); 01no. 3X105 MVA Single Phase 400/220 kV Transformer (2<sup>nd</sup>) and associated bays at Rangpo Sub-station (hereinafter referred to as "Asset 3") ; 01



no. 80 MVAR Bus Reactor (1st) & associated bays at Rangpo Sub-station (hereinafter referred to as "Asset 4") under Transmission System for "Transfer of power from Generation Projets in Sikkim to NR/WR Part-B" in Eastern Region under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for the period from date of commercial operation to 31.3.2019.

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

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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner company, vide Memorandum No. C/CP/Sikkim Generation projects-Part-B dated 17.3.2011 with an estimated cost of ₹158512.00 lakh including an IDC of ₹10183.00 lakh, based on price level of 3rd Quarter, 2010. The total approved apportioned cost for the instant assets is ₹19892.91 lakh. As per the investment approval, the transmission asset was scheduled to be commissioned within 32 months from the date of investment approval, i.e. 17.3.2011.

(b) The scope of work covered under Transmission System for "Transfer of power from Generation Projets in Sikkim to NR/WR Part-B" in Eastern Region is as follows:-



### Transmission line:

- (i) LILO of Teesta III- Kishanganj 400 kV D/C line (quad) at Rangpo
- (ii) Rangpo- New Melli 220 kV D/C line
- (iii) LILO of Gangtok- Rangit 132 kV S/C line at Rangpo and Termination of Gangtok- Rangpo/ Chuzachen and Melli- Rangpo/ Chuzachen 132 kV line at Rangpo
- (iv) LILO of Teesta V- Siliguri 400 kV D/C line at Rangpo.
- (v) Kishanganj- Patna 400 kV D/C Squad line

### Sub-stations

- (i) Establishment of 400/220/132 kV Gas Insulated at Rangpo with 16X105 MVA 400/220 kV 1-Phase transformers and 3X100 MVA 220/132 kV 1- Phase transformers.
- (ii) Establishment of 220 kV GIS switching station at New
- (iii) Extension of bays at Kishanganj 400/220 kV Sub-station
- (iv) Extension of bays at Patna 400/220 kV Sub-station

(c) The transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	608.44	703.71	713.60	713.60	713.60
Interest on Loan	558.87	621.34	591.29	553.67	509.01
Return on Equity	847.60	972.27	983.69	983.69	983.69
Interest on Working Capital	63.62	71.90	72.33	72.12	71.77
O&M Expenses	311.99	344.34	355.77	367.55	379.79
<b>Total</b>	<b>2390.52</b>	<b>2713.56</b>	<b>2716.68</b>	<b>2690.63</b>	<b>2657.86</b>

(₹ in lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	13.50	53.68	66.62	66.62	66.62
Interest on Loan	8.22	31.60	37.33	34.64	31.66
Return on Equity	15.04	60.10	74.59	74.59	74.59
Interest on Working Capital	1.98	6.85	7.73	7.79	7.85
O&M Expenses	20.48	63.47	65.57	67.75	70.02



<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Total</b>	<b>59.22</b>	<b>215.70</b>	<b>251.84</b>	<b>251.39</b>	<b>250.74</b>

(₹ in lakh)

<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	93.49	116.16	119.61	119.61	119.61
Interest on Loan	69.24	82.23	78.81	72.61	65.11
Return on Equity	104.17	130.06	133.92	133.92	133.92
Interest on Working Capital	10.60	12.91	13.18	13.22	13.24
O&M Expenses	80.65	96.86	100.08	103.39	106.83
<b>Total</b>	<b>358.15</b>	<b>438.22</b>	<b>445.60</b>	<b>442.75</b>	<b>438.71</b>

(₹ in lakh)

<b>Asset 4</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciation	44.62	53.18	53.52	53.52	53.52
Interest on Loan	31.96	36.23	34.27	31.75	28.43
Return on Equity	49.72	59.55	59.93	59.93	59.93
Interest on Working Capital	5.36	6.37	6.44	6.48	6.51
O&M Expenses	44.34	53.25	55.02	56.84	58.73
<b>Total</b>	<b>176.00</b>	<b>208.58</b>	<b>209.18</b>	<b>208.52</b>	<b>207.12</b>

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

(₹ in lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	27.77	28.70	29.65	30.63	31.65
Maintenance Spares	49.99	51.65	53.37	55.13	56.97
Receivables	425.61	452.26	452.78	448.44	442.98
Total Working Capital	503.37	532.61	535.80	534.20	531.60
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	67.96	71.90	72.33	72.33	71.77
Pro rata Interest on	63.62	71.90	72.33	72.33	71.77



<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
working capital					

(₹ in lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	5.12	5.29	5.46	5.65	5.84
Maintenance Spares	9.22	9.52	9.84	10.16	10.50
Receivables	29.61	35.95	41.97	41.90	41.79
Total Working Capital	43.95	50.76	57.27	57.71	58.13
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	5.93	6.85	7.73	7.79	7.85
Pro rata Interest on working capital	1.98	6.85	7.73	7.79	7.85

(₹ in lakh)

<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	7.81	8.07	8.34	8.62	8.90
Maintenance Spares	14.06	14.53	15.01	15.51	16.02
Receivables	69.39	73.04	74.27	73.79	73.12
Total Working Capital	91.26	95.64	97.62	97.92	98.04
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	12.32	12.91	13.18	13.22	13.24
Pro rata Interest on working capital	10.60	12.91	13.18	13.22	13.24

(₹ in lakh)

<b>Asset 4</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M Expenses	4.30	4.44	4.59	4.74	4.89
Maintenance Spares	7.73	7.99	8.25	8.53	8.81
Receivables	34.10	34.76	34.86	34.75	34.52
Total Working Capital	46.13	47.19	47.70	48.02	48.22
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	6.23	6.37	6.44	6.48	6.51
Pro rata Interest on working capital	5.36	6.37	6.44	6.48	6.51



4. The annual fixed charges for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 15.6.2016 based on actual COD.

5. The petitioner has served the petition on the respondents and notice regarding filing of the instant petition was published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 11.7.2016. LANCO Teesta Hydro Power Private Limited (hereinafter to be referred as "LTHPL"), Respondent No. 4, has filed its reply vide affidavit dated 10.6.2016. The petitioner has submitted rejoinder to the reply filed by Respondent No. 4 vide affidavit dated 27.7.2016.

6. LTHPL in its reply has submitted that the instant asset is covered under Sikkim Part B transmission projects (Part of High Capacity Power Transmission Corridor). The HCPTC and its various phases were approved by the Commission vide order dated 31.5.2010 in Petition No. 233 of 2009. Subsequently, the petitioner entered into a BPTA with the LTHPL on 24.2.2010. The respondent has submitted the Transmission Asset for which the transmission asset has been filed and the associated system cannot be considered as ready and complete for the purpose of tariff determination and the transmission asset is only a part of the entire scheme. Unless the entire identified network under BPTA is not operationalized, declaring COD of any one of these assets in isolation cannot be

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the basis for undertaking tariff determination of the transmission lines. Referring to the Hon`ble Supreme Court judgment dated 3.3.2016 of PGCIL vs Punjab State Power Corporation Ltd and Ors. in case of Barh-Balia transmission submitted that the instant assets have be to complete in all respects including installation of switchgear, metering and charging from both ends in order to be held to be operational.

7. The LTHPL has submitted that the commissioning of LTHPL's generation project is delayed due to force majeure events such as delay in obtaining forest diversion approval from MoEF, geological surprises including unprecedented rains/floods and massive earthquakes which are reasonably beyond the control of generator. The project suffered cost over-runs and is in severe financial stress. In order to protect the interest of all stakeholders, project has gone under SDR (Strategic Debt Restructuring) Scheme issues by RBI. The revival plan is being worked out under the aegis of Ministry of Power and all stakeholders including consortium of lenders and Government of Sikkim. LTHPL has requested to consider these reasons while determining tariff for the instant transmission assets and the tariff should not be made applicable to LTHPL which is under severe financial stress. Under the BPTA, the petitioner as well as all Long Term Transmission customers including LTHPL has agreed to pay the applicable transmission charges from the scheduled commissioning date of generating unit. At the same time the BPTA provided for suspension of all activities during the time generation project was affected by force majeure events. The petitioner was fully aware of the delay suffered by the LTHPL's generation project and did not

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oppose the same at any given point of time. The petitioner by its conduct has waived off its right to raise any dispute in this regard. Therefore, the petitioner is now estopped from claiming transmission tariff from LTHPL or making LTHPL liable for the payment of transmission tariff.

8. The petitioner has submitted rejoinder to the reply to LTHPL vide affidavit dated 27.7.2016. The petitioner submitted that power flow has been taking place from Chuzachen (Generator commissioned on May, 2013) through Rangpo Sub-station from 24.4.2014 onwards via termination of 132 kV Chuzachen – Rangpo Transmission Line. LILO of 400kV D/C Teesta V- Siliguri Line (Ckt-I) at Rangpo has been declared under commercial operation from 24.4.2014. It is relevant to mention here that the 400 kV D/C Teesta V- Siliguri (Ckt-I) Line had been in commercial operation from 1.2.2008. The petitioner further submitted that LILO of 400 kV D/C Teesta V- Siliguri Line (Ckt-I) at Rangpo has been declared under commercial operation on 24.4.2014. 400 kV D/C Teesta V- Siliguri (Ckt-I) Line had been in commercial operation on 1.2.2008. LILO of 132 kV S/C Gangtok-Rangit Line at Rangpo & associated bays at Rangpo Sub-station has been commissioned on 1.12.2014. It is submitted that the 132 kV S/C Gangtok-Rangit Line has been in operation from 1.10.2005. Thus, the power is also being supplied to Sikkim State via LILO of 132 kV S/C Gangtok-Rangit Line at Rangpo & associated bays at Rangpo Sub-station commissioned on 1.12.2014.

9. The petitioner in its rejoinder as submitted that all the asset covered under the instant petition have been declared under commercial operation progressively from 24.4.2014 to 1.12.2014 and are in use from their respective dates of



commercial operation. The transmission elements under instant petition are being utilized for evacuation of power from Sikkim generation projects as well as existing Central sector generating stations like Teesta V HEP (510 MW) & Rangit III HEP (60 MW) of NHPC. So from the day since declaration of its commercial operation, the subject assets have been wheeling power from 24.4.2014/ 22.5.2014/ 1.12.2014 onwards. further it is submitted by the petitioner that, the subject transmission assets had been completed in all respects (Transmission line along with Switchgear of both ends and continuous power flow) and same is also evident through charging certificate from RLDC and hence the precedence relied upon and submitted herewith by Respondent No. 4 in their instant submissions are devoid of merit and cannot be applied in the instant case.

10. The petitioner further submitted that Respondent No. 4 is a necessary party for the instant petition as per the clauses of the BPTA. It is submitted that, the claims made by Respondent No. 4, has admitted that they had agreed to bear the transmission charges under the terms of the BPTA. Further, the said BPTA is a statutory requirement, which was duly highlighted in order dated 31.5.2010 in Petition No. 233/2009. The petitioner has submitted that the construction of elements of the instant corridors has been agreed between the parties in the said agreement, and hence, Respondent No. 4 is necessary to be impleaded in the array of party to the instant petition.

11. We have considered the submission of the respondents and the petitioner. We are of the view that as per BPTA agreement between the petitioner and seven Long Term Transmission Customers, the scope of work of the scheme was

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divided into Part A and Part B. It is observed that power flow has been started. It is observed that the Rangpo Sub-station is a pooling station and is at a critical position. The LILO of 132 kV S/C Gangtok-Rangit Line at Rangpo & associated bays at Rangpo Sub-station has already been done and power is flowing through the Sub-station.

12. We have considered the submissions of the petitioner and LTHPL. The asset is being utilized and hence we are of the view that the transmission tariff of subject assets should be included in the Yearly Transmission Charges (YTC) and the petitioner should operationalize the LTA of the generating stations from the actual date of commissioning of the instant assets.

13. Having heard the petitioner and respondents, we proceed for determination of tariff based on the information placed on record by the petitioner and respondents.

#### **Commercial Operation Date (“COD”)**

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

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

xxx

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



xxx”

15. The petitioner has submitted that Assets 1, 2, 3 and 4 were commissioned on 24.4.2014, 1.12.2014, 22.5.2014 and 22.5.2014 respectively. The petitioner has submitted RLDC trial run operation certificate for Asset 1, 2, 3 and 4 dated 6.2.2015, 26.6.2015, 6.2.2015 and 6.2.2015 respectively in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation. Accordingly, we have considered 24.4.2014, 1.12.2014, 22.5.2014 and 22.5.2014 as the COD of Assets 1, 2, 3 and 4 respectively. The tariff is worked out for the instant assets from the COD to 31.3.2019 in this order.

### **Capital Cost**

16. The capital cost claimed by the petitioner, as certified vide Auditor's Certificates dated 12.6.2015 for the Assets 1, 2, 3 and 4 along with the estimated additional capital expenditure during 2014-19 tariff period, is as below:-

(₹ in lakh)

Asset	Approved apportioned cost	Exp. up to COD	Additional Capital Expenditure			Estimated completion cost
			2014-15	2015-16	Total	
Asset-1	14263.97	14346.10	1399.68	374.28	1773.96	16120.06
Asset-2	1783.08	763.06	8.26	490.50	498.76	1261.82
Asset-3	2766.12	2008.68	126.15	130.50	256.65	2265.33
Asset-4	1079.74	975.56	25.27	12.90	38.17	1013.73

17. Regulation 9 (1), 9(2) and 10 (1) of the 2014 Tariff Regulations specify as follows:-



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

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

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

**“10. Prudence Check of Capital Expenditure:** The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

### **Cost over-run**

18. The estimated completion cost of all the assets, except Asset 1 is within the approved apportioned cost. The approved apportioned cost of Asset 1 is ₹14263.97 lakh against total estimated completion cost of ₹16120.06 lakh. The completion cost of Asset 1 is restricted up to approved apportioned cost.

### **Time over-run**



19. As per the investment approval dated 17.3.2011, the commissioning schedule of the project is 32 months from the date of investment approval. Accordingly, the schedule date of commercial operation was 1.12.2013. Assets 1, 2, 3 and 4 were commissioned on 24.4.2014, 1.12.2014, 22.5.2014 and 22.5.2014 respectively. Hence, there is time over-run of 144 days, 365 days, 172 days and 172 days with regard to Asset 1, 2, 3 and 4 respectively. The petitioner has submitted following reasons for time over-run:-

**Delay in construction of Transmission Lines in Sikkim Area:-**

**Delay due to forest clearances**

20. The petitioner vide affidavit dated 13.7.2016 has submitted that the petitioner has requested Department of Forest (DOF), Government of Sikkim for start of preliminary survey on 12.7.2011, Preliminary survey was completed on 2.2.2012 accordingly letter has been submitted to Director, Land Revenue Department, Government of Sikkim by the petitioner requesting for deputing revenue surveyors along transmission corridor for ease of demarcation of forest stretch as well as mitigation of local ROW. Further the petitioner has applied for the forest clearance, after conducting the detailed survey work of the aforesaid lines falling within the forest area, on 3.3.2012. The Stage-I clearance (in-principle approval) for laying of 132 kV lines was obtained on 20.11.2012 and for LILO of 400 kV D/C Teesta V-Siliguri line at Rangpo was obtained on 15.2.2013. The petitioner has further submitted that after compliance of Stage-I clearance guideline/terms & conditions, Stage-II clearance (final approval) was issued on



17.4.2013. The trees cutting order was issued on 13.11.2013 after a period of seven months. The entire process of forest clearance took around 1 year 8 months time resulting into delay in commissioning of the instant assets.

**Delay in construction of Rangpo Sub-station:-**

**Due to not allowing the movement of Transformer/Reactors over the Rangpo Bridge and washing out of diversion road**

21. The petitioner has submitted that the consignment containing the Transformer/Reactors was stopped before the bridge on Rangpo River by State Government agencies as the transportation of heavy consignment over the bridge of Rangpo River was banned by Border Road Organization (hereinafter "BRO") and Government of Sikkim. As such, the transporter constructed a diversion road to cross the Rangpo River for transportation of the subject asset. However, the diversion road was washed away due to sudden outbreak of artificial reservoir in the river upstream and resultant rush of water in the river. Afterwards the monsoon in Sikkim started and the transportation of the subject asset was postponed until the monsoon was over. In the meantime the strengthening work on the Rangpo River Bridge was complete and permission to transport the subject asset over the bridge was granted by the BRO on 30.8.2013.

**Due to infringement of materials of other party**

22. The petitioner has submitted that there was a delay of around 1 month in commencing of work in some portions of sub-station area due to non-removal of stone wall, stone chips, sheds, transformers of M/s LANCO.





## **Due to ROW problems and compensation issues**

23. The petitioner has requested DM, South Sikkim vide letter dated 12.2.2012 to intervene in the matter of ROW problem created by the villagers thereby not allowing to carry out any survey work. Further the petitioner has submitted that Deputy Director, Land & Revenue Department, Sikkim, wrote to Panchayat members to allow construction of transmission line through the boundary of Forest and Village as per meeting held in presence of the petitioner, villagers and State Administration on 18.5.2012 at Bermiok village. The request for solving the issue was made on 12.2.2012, However later on the villagers did not allow passing of the line though the border of forest and village and thereafter no work was taken up. The petitioner has submitted a letter dated 16.7.2012, by its one of the contractor stating the ROW issue at foundation location due to this Joint Director, Land and Revenue Department, Sikkim directed for a meeting at village on 2.8.2012. The petitioner has submitted that land owners were not allowing to start the work due to non-payment of balance 20% compensation amount although the petitioner has submitted full compensation amount to the authorities. The petitioner has further submitted that due to political intervention, land owners obstructed the commencement of boundary wall and it got delayed. Obstruction by local miscreants and manhandling of security guards also delayed the execution of work. The petitioner has submitted that detailed survey of the Transmission Lines routes, a request for damage compensation assessment was made in February, 2012, to the respective land revenue authorities of the Government of Sikkim. During the survey work the local residents opposed the

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construction activities of transmission lines demanding higher compensation. The assessment of damage compensation could not be finalized by the State land authorities in a time bound manner. The first lot of funds requisition was received only on 7.9.2013 (after 1 year and 7 months) on continuous follow up through letters, meetings etc. and on verbal requests at various levels. The payment for compensation was made on 12.9.2013 in favour of Secretary (Land, Revenue and D. M. Department) Government of Sikkim. The petitioner has submitted that whole process took approximately 22 months on account of ROW issue and 21 months on account of compensation issue. The petitioner has submitted the detailed chronology of the above mentioned events related to land compensation issue and the corresponding ROW issues are tabulated below

<b>Date</b>	<b>Remark</b>
2.2.2012	The petitioner requested Joint Director Land & revenue Department, Sikkim, to deploy revenue/ land surveyors for assessment of compensation regarding construction of transmission line.
12.2.2012	Letter to Joint Director, Land Revenue Department, South Sikkim, requesting deputing of revenue surveyors for assessment of crop compensation at tower locations of the transmission line during initiation of foundation works.
12.2.2012	The petitioner requested District Collector, South Sikkim, to intervene in the matter of ROW problem created by villagers thereby not allowing to carry out any survey work.
8.5.2012	Letter to District Magistrate (DM), South Sikkim requesting deputing of revenue surveyors for assessment of crop compensation at tower locations of the transmission line.
28.5.2012	Dy. Director, Land & Revenue Department, Sikkim, writes to Panchayat members to allow for construction of transmission line through the boundary of Forest and Village as per Meeting held in presence of The petitioner, Villagers and State Admin on 18.5.2012 at Bermiok Village. It may be seen that the request for solving the issue was made on 12.02.2012. However, latter on the villagers denied passing the line even though the border of forest and village and thereafter no work taken up.
3.7.2012	The petitioner requested DC, Namchi for compensation assessment at various places in line route.



<b>Date</b>	<b>Remark</b>
16.7.2012	Letter highlight ROW problem created by villagers at foundation locations of 132 kV line.
30.7.2012	Joint Director, L & R Department, Sikkim, writes for a meeting at village on 02.08.12
25.8.2012	The petitioner's officials met DC, South Sikkim & requested for compensation assessment at various places in line route.
17.9.2012	Letter from contractor highlight ROW problem created by villagers at Loc. 49 to 61.
27.9.2012	Letter from Joint Director, Land & revenue Department, Sikkim to the petitioner for payment of compensation for land cost also stating that land is very scarce in Sikkim and it will not be possible to convince the landowners to allow putting towers on their land without giving land cost/long term yield of land.
29.9.2012	Letter from contractor highlight ROW problem created by villagers at some Loc. of the subject transmission line.
1.10.2012	Letter to District Collector (DC), Sikkim, asking for advice for compensation policy with regards to other projects completed or going on in same area.
4.10.2012	FIR lodged in Police Station against threats of villagers.
1.12.2012	Letter from contractor highlight ROW problem created by villagers at Loc. 40/1.
6.12.2012	Letter from contractor highlight ROW problem created by villagers at Loc. AP 30/a.
January, 2013	Letter from Minister of Sikkim, Govt. asking the petitioner to consider the prayer & demands of the villagers related to land issue.
30.11.2012 to 7.3.2013	Follow up for expediting the compensation assessment for various locations under transmission line by the petitioner officials.
4.3.2013	Police Wireless memo highlighting the action to be taken in wake of ROW issue created by villagers.
23.3.2013	District Collector, South Sikkim calls a meeting of all tower line construction agencies to arrive at uniform rate of compensation, meeting fixed on 03.04.2013.
26.3.2013	Letter from L&R Department Sikkim to the petitioner to release crop compensation money based on assessment of 48 locations. In spite of this the first lot of compensation took about 13.5 months. During this period the progress of work was very slow due to frequent stoppage of work by the landowners. This is evident from the various correspondences dated 16.7.2012, 28.08.2012, 29.9.2012, 03.10.2012, 01.11.2012, 22.11.2012, 23.11.2012 and 06.12.2012 made by M/S Shyama Power (I) Limited, the executing agency.
8.4.2013	Letter from Joint Director, Human Resource Department South Sikkim, refusing NOC for permission for erecting tower in school land in view of pressure and non-compliance from locals.
12.4.2013	Letter to L&R Department Sikkim, requesting to review amount of compensation that had assessed amount based on 40 years crop value which is not as per Indian Telegraph Act which is followed at the entire country for assessment of compensation for construction of transmission line. This has escalated the compensation value to an unreasonable



Date	Remark
	extent. Also for fruit bearing trees there is Supreme Court Ruling of payment of maximum 8 years yield. Hence Govt. of Sikkim was requested to review the compensation assessment procedure.
14.5.2013	Letter from Asst. Director, L & R Department Sikkim, requesting the petitioner to arrange relocation of ROW affected person to a nearby location.
12.6.2013	Letter from SDM, South Sikkim, directing to stop transmission line works as per Govt.'s order during monsoon considering safety during construction.
17.6.2013	Minute of Meeting that was conducted by the District Collector in order to review the compensation assessment. But the villagers did not agree to review of compensation amount.
26.6.2013	Letter to Executive Engineer, Energy Department Sikkim, to shift poles obstructing the transmission line work.
9.7.2013 & 17.7.2013	Order from DM, South Sikkim, to stop the transmission line construction work in view of dispute of compensation amount.
16.7.2013	Letter from the petitioner to DC, South Sikkim, requesting to continue the transmission line construction till the time compensation issue is resolved which is being discussed at higher levels.
23.7.2013	Letter to SDM, South Sikkim, requesting kind co-operation and deputation of revenue surveyors for assessment of surface damage compensation so that payment can be done at the earliest.
1.8.2013	Letter from the petitioner to Secretary, Land & revenue Department, Govt. of Sikkim, to review its compensation mechanism in view of exorbitant claims which violets the order of Supreme Court regarding compensation of crop damage.
30.8.2013	Letter from Secretary, Land & revenue Department., Govt. of Sikkim, reverting that compensation amount cannot be compromised in view of scarcity & unprecedented industrial, tourism and residential growth which has increased the land value manifold.
19.9.2013	Letter from the petitioner to Chief Secretary, Govt. Of Sikkim, intimating him that compensation as decided by State Government, is being paid, however, assessment of the same at various locations and thereafter approval and disbursement of compensation is taking considerable time. He was requested to expedite and simplify the process since ROW issues at the affected sites has stalled the progress of transmission line construction.
The localized assessment of sites required land surveyors which had to deputed by L&R Department. Sikkim on repeated requests of the petitioner. Thereafter, demand of compensation was made. After payment of claim the petitioner, the permission of disbursed allowed by DC, South Sikkim only after approval from Secretary, Revenue Department Sikkim. The whole process consumed lot of time considering it was done in batches and separately for individual sites.	
30.10.2013	Letter to DM, South Sikkim, requesting to deploy land surveyors and arrange a meeting with concerned officials and villagers to reach a consensus on receipt of compensation payment by villagers who were regularly created ROW issue. The matter was later resolved by Nov'2013



Date	Remark
22.11.2013	Letter to DC, South Sikkim, to intervene to resolve ROW issue at various transmission line locations

24. We have considered the submissions of the petitioner regarding time over-run. There has been a time over-run of 144 days to 365 days in commissioning of the instant assets. The time over-run has been attributed to delay in obtaining forest clearance, delay in tree felling orders, delay in transportation of transformer/reactor, delay in payment of compensation and other factors. It is observed that the petitioner approached the Department of Forest (DOF), Government of Sikkim for starting the preliminary survey on 12.7.2011 after 117 days from investment approval. The petitioner has not explained the reasons for delay in approaching the Department of Forest (DOF), Government of Sikkim. Hence, delay on this account is attributable to the petitioner and it is disallowed. As regards forest clearance, it is observed that the petitioner submitted the proposal for forest clearance on 3.3.2012. The Stage I clearance was received on 15.2.2013 and Stage II clearance was received on 17.4.2013 and the tree felling order was received on 13.11.2013. It took 620 days for obtaining the forest clearance and the tree felling orders. Normally, it would take 300 days for obtaining the forest clearance and the petitioner would have built in these 300 days into the timeline. We are of the view that the time taken beyond 300 days in obtaining forest clearance requires to be condoned. Accordingly, we condone 320 days out of 620 days taken for obtaining forest approval. It is observed that the petitioner has made the request for damage compensation assessment in February, 2012 however, the demand was raised by the State government



authorities on 7.9.2013 and the payment was made by the petitioner immediately on 12.9.2013. The demand for payment of land compensation was received after a period of 19 months. The delay in obtaining the demand for payment of land compensation is subsumed in the delay in getting forest clearance. It is observed that the permission to transport the transformer/reactor over the Rangpo River was received on 30.8.2013 and this period is also subsumed in the time taken for obtaining the forest clearance. As regards the delay of one month due to infringement of material of LANCO, we are of the view that the petitioner should have taken appropriate steps in coordination with LANCO and settled the matter. We are not inclined to condone the time over-run of one month claimed by the petitioner on this regard. The petitioner has attributed time over-run of 21 months due to RoW issues and due to delay in payment of 20% of land compensation by the Government of Sikkim. The petitioner has deposited 20% of the land compensation as demanded by the State government on time and time over-run due to this ROW issues cannot be attributed to the petitioner and accordingly 659 days of time over-run from 12.2.2012 to 22.11.2013 is also condoned.

25. Accordingly, the delay of 117 days on the part of the petitioner in approaching the Department of Forest, Government of Sikkim for preliminary survey is not condoned. As such 117 days of time over-run in case of all the 4 assets in the instant petition is not condoned. The remaining period of time over-run of 27 days, 248 days, 55 days and 55 days in case of Asset 1, 2, 3 and 4 respectively is condoned. Accordingly, IDC and IEDC has been deducted from capital cost as on COD as follows:-



Particulars	(₹ in lakh)	
	IDC	IEDC
<b>Asset 1</b>		
IDC and IEDC claimed as per Auditor's Certificate 12.6.2015	646.61	396.13
IDC and IEDC disallowed for 117 days	66.71	40.87
<b>Asset 2</b>		
IDC and IEDC claimed as per Auditor's Certificate 12.6.2015	34.14	20.73
IDC and IEDC disallowed for 117 days	2.95	1.79
<b>Asset 3</b>		
IDC and IEDC claimed as per Auditor's Certificate 12.6.2015	89.21	54.58
IDC and IEDC disallowed for 117 days	8.98	5.50
<b>Asset 4</b>		
IDC and IEDC claimed as per Auditor's Certificate 12.6.2015	41.53	24.92
IDC and IEDC disallowed for 117 days	4.18	2.51

### IDC and IEDC

26. The petitioner has submitted the details with regard to IEDC and IDC based on actual COD and undischarged liabilities for Asset 1, 2, 3 and 4. The petitioner has claimed IDC and IEDC as follows:-

Asset	(₹ in lakh)			
	IEDC up to COD	Proportionate IEDC up to COD	IDC up to COD	Proportionate IDC up to COD
Asset 1	396.13	355.26	646.61	579.90
Asset 2	20.73	18.94	34.14	31.19
Asset 3	54.58	49.08	89.21	80.23
Asset 4	24.92	22.41	41.53	37.35

27. The petitioner has submitted that IEDC claimed is based on actual COD. The IDC up to COD is being capitalised and IDC discharged during 2014-15 has been added to the additional capital expenditure during 2014-15. The petitioner has submitted that for Asset 3, IDC is being capitalised up to COD. The IDC discharged on cash basis as follows:-



(₹ in lakh)

Asset	IDC discharged up to COD	Proportionate IDC discharged up to COD	IDC discharged during 2014-15	Proportionate IDC discharged during 2014-15
Asset 1	374.25	335.64	272.36	244.26
Asset 2	34.14	31.19	0.00	0.00
Asset 3	62.39	56.11	26.82	24.12
Asset 4	30.09	27.06	11.44	10.29

28. The capital cost after adjustment of IDC is as follows:-

(₹ in lakh)

Asset	Capital cost as on COD after disallowing and adjusting IDC and IEDC	Additional Capital Expenditure after adjustment of IDC	
		2014-15	2015-16
Asset 1	13994.26	269.71	0.00
Asset 2	736.55	8.26	490.50
Asset 3	1970.08	150.27	130.50
Asset 4	958.58	35.56	12.90

### Initial Spares

29. The petitioner has claimed initial spares vide Auditor's Certificate dated 12.6.2015 as follows:-

(₹ in lakh)

Asset	Claimed by the petitioner	
	Transmission Line	Sub-station
Asset 1	18.10	356.25
Asset 2	4.35	58.77
Asset 3	0.00	60.85
Asset 4	0.00	33.56

30. Regulation 13 of the 2014 Tariff Regulations provide for ceiling norms for capitalization of initial spares. The ceiling limit of brown-field Sub-station is 6.00%





of the Plant and Machinery Cost of the element. Accordingly, the initial spares are allowed as specified in the 2014 Tariff Regulations and it is as under:-

Particulars	(₹in lakh)					
	Asset 1 (TL)	Asset 1 (S/S)	Asset 2 (TL)	Asset 2 (S/S)	Asset 3 (S/S)	Asset 4 (S/S)
Capital cost claimed as on cut-off date after deducting IDC,IEDC and civil works	3201.81	11875.51	563.39	643.56	2121.54	947.28
Proportionate capital cost claimed as on cut-off date after deducting IDC,IEDC and civil works	2833.15	10508.14	559.89	639.56	2106.25	930.79
Initial spares as per Auditor's Certificate	18.10	356.25	4.35	58.77	60.85	33.56
Proportionate Initial spares as per Auditor's Certificate	16.02	315.23	4.32	58.41	60.41	32.98
Ceiling limit as per Regulation 13 of 2014 regulations	1.00%	6.00%	1.00%	6.00%	6.00%	6.00%
Initial spares worked out as per norms	28.46	650.61	5.61	37.10	130.59	57.31
Excess initial spares claimed	0.00	0.00	0.00	21.67	0.00	0.00

31. The initial spares claimed by the petitioner for Asset 1, 3 and 4 are within the limits specified under Regulation 13 of the 2014 Tariff Regulation. The initial spares claimed in respect of Asset 2 is more than the ceiling limits specified in the 2014 Tariff Regulations. Accordingly, the excess claim is deducted from the



capital cost as on COD. Capital cost after adjusting IDC and deducting excess initial spares for the purpose of tariff determination are as follows:-

(₹ in lakh)

Asset	Capital cost as on COD after deduction and adjustment of IDC and deduction of excess initial spares	Additional Capital Expenditure after adjustment of IDC		Total estimated completion cost
		2014-15	2015-16	
Asset 1	13994.26	269.71	0.00	14263.97
Asset 2	736.55	8.26	490.50	1235.41
Asset 3	1970.08	150.27	130.50	2250.85
Asset 4	958.58	35.56	12.90	1007.04

### **Additional Capital Expenditure**

32. The petitioner has projected additional capitalization in case of Asset 1, 2, 3 and 4 towards balance and retention payment under Regulation 14(1) (i) of 2014 Tariff Regulations.

33. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:-

“cut-off date” means 31<sup>st</sup> 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 the year, the cut-off date shall be 31<sup>st</sup> March of the year closing after three years of the year of commercial operation”.

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

34. Accordingly, the cut-off date of the instant assets is 31.3.2017. IDC discharged after COD in case of Assets 1, 3 and 4 has been added to the additional capital expenditure. The additional capitalization for the instant assets



is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations, subject to true up on actual basis. The details of additional capital expenditure is as follows:-

Asset	Approved apportioned cost	Exp. up to COD	Additional Capital Expenditure			(in ₹ lakh)
			2014-15	2015-16	Total	Estimated completion cost
Asset 1	14263.97	13994.26	269.71	0.00	269.71	14263.97
Asset 2	1783.08	736.55	8.26	490.50	498.76	1235.41
Asset 3	2766.12	1970.08	150.27	130.50	280.77	2250.85
Asset 4	1079.74	958.58	35.56	12.90	48.46	1007.04

### **Debt: Equity Ratio**

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

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

Provided that:

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

36. The petitioner has considered debt:equity ratio as 70:30 as on COD and debt:equity ratio as 70:30 for additional capitalization during 2014-15 and 2015-16. Accordingly, we have considered the same for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)						
Asset 1						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)



Asset 1						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	9795.98	70.00	188.80	70.00	9984.78	70.00
Equity	4198.28	30.00	80.91	30.00	4279.19	30.00
<b>Total</b>	<b>13994.26</b>	<b>100.00</b>	<b>269.71</b>	<b>100.00</b>	<b>14263.97</b>	<b>100.00</b>

(₹ in lakh)

Asset 2						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	515.65	70.00	349.13	70.00	864.79	70.00
Equity	220.99	30.00	149.63	30.00	370.62	30.00
<b>Total</b>	<b>736.65</b>	<b>100.00</b>	<b>498.76</b>	<b>100.00</b>	<b>1235.41</b>	<b>100.00</b>

(₹ in lakh)

Asset 3						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	1379.06	70.00	196.54	70.00	1575.60	70.00
Equity	591.02	30.00	84.23	30.00	675.26	30.00
<b>Total</b>	<b>1970.08</b>	<b>100.00</b>	<b>280.77</b>	<b>100.00</b>	<b>2250.85</b>	<b>100.00</b>

(₹ in lakh)

Asset 4						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	671.01	70.00	33.92	70.00	704.93	70.00
Equity	287.57	30.00	14.54	30.00	302.11	30.00
<b>Total</b>	<b>958.58</b>	<b>100.00</b>	<b>48.56</b>	<b>100.00</b>	<b>1007.04</b>	<b>100.00</b>

### Interest on Loan ("IOL")

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



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

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

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

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

38. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner’s prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out as follows:-

(₹ in lakh)

Asset 1					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	9795.98	9984.78	9984.78	9984.78	9984.78
Cumulative Repayment upto previous year	0.00	571.52	1188.56	1805.60	2422.63
Net Loan-Opening	9795.98	9413.26	8796.22	8179.18	7562.15
Additions during the year	188.80	0.00	0.00	0.00	0.00
Repayment during the year	571.52	617.04	617.04	617.04	617.04
Net Loan-Closing	9413.26	8796.22	8179.18	7562.15	6945.11



Average Loan	9604.62	9104.74	8487.70	7870.66	7253.63
Rate of Interest (%)	5.8907	6.0947	6.1484	6.2189	6.2155
<b>Interest on Loan</b>	530.13	554.91	521.86	489.47	450.85

(₹ in lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross loan opening	515.65	521.44	864.79	864.79	864.79
Cumulative Repayment upto previous year	0.00	12.97	65.25	130.48	195.71
Net Loan-Opening	515.65	508.47	799.54	734.31	669.08
Additions during the year	5.78	343.35	0.00	0.00	0.00
Repayment during the year	12.97	52.28	65.23	65.23	65.23
Net Loan-Closing	508.47	799.54	734.31	669.08	603.85
Average Loan	512.06	654.00	766.92	701.69	636.46
Rate of Interest (%)	4.6510	4.7060	4.7672	4.8356	4.8722
<b>Interest on Loan</b>	7.90	30.78	36.56	33.93	31.01

(₹ in lakh)

<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross loan opening	1379.06	1484.25	1575.60	1575.60	1575.60
Cumulative Repayment upto previous year	0.00	92.90	208.30	327.14	445.99
Net Loan-Opening	1379.06	1391.35	1367.30	1248.45	1129.61
Additions during the year	105.19	91.35	0.00	0.00	0.00
Repayment during the year	92.90	115.40	118.84	118.84	118.84
Net Loan-Closing	1391.35	1367.30	1248.45	1129.61	1010.76
Average Loan	1385.20	1379.32	1307.88	1189.03	1070.19
Rate of Interest (%)	5.7726	5.9211	5.9864	6.0661	6.0439
<b>Interest on Loan</b>	68.79	81.67	78.30	72.13	64.68

(₹ in lakh)

<b>Asset 4</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross loan opening	671.01	695.90	704.93	704.93	704.93
Cumulative Repayment upto previous year	0.00	44.35	97.18	150.35	203.52
Net Loan-Opening	671.01	651.55	607.75	554.58	501.40
Additions during the year	24.89	9.03	0.00	0.00	0.00
Repayment during the year	44.35	52.83	53.17	53.17	53.17
Net Loan-Closing	651.55	607.75	554.58	501.40	448.23
Average Loan	661.28	629.65	581.16	527.99	474.82



Rate of Interest (%)	5.5830	5.7146	5.8565	5.9717	5.9468
<b>Interest on Loan</b>	31.76	35.98	34.04	31.53	28.24

### **Return on Equity (“ROE”)**

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

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

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

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:

xxx”

**“25. Tax on Return on Equity:**

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”



40. The petitioner has claimed ROE at the rate of 20.341% after grossing up the ROE of 16.00% with MAT rate as per the above said Regulation. The petitioner has claimed an additional RoE of 0.5% with regard to Asset 1 stating that the commissioning of Asset 1 is within the timelines of 36 months as specified for the purpose of allowing additional RoE of 0.5%. 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.

41. 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.

42. Regulation 24(2)(iii) of the 2014 Tariff Regulations provides as under:-

"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:"

43. We have considered the submission of the petitioner. We are of the view that only Asset 1 has been commissioned within timeline specified in the 2014





Tariff Regulations. However, the petitioner has not submitted a certificate from the Regional Power Committee or National Power Committee as required under Regulation 24(2)(iii) of the 2014 Tariff Regulations. As such, the additional ROE of 0.5% is not allowed.

44. 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. Accordingly, MAT rate of 21.342% of 2015-16 has been considered to work out the return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	4198.28	4279.19	4279.19	4279.19	4279.19
Additional Capitalization	80.91	0.00	0.00	0.00	0.00
Closing Equity	4279.19	4279.19	4279.19	4279.19	4279.19
Average Equity	4238.73	4279.19	4279.19	4279.19	4279.19
Return on Equity (Base Rate) (%)	16.000	16.000	16.000	16.000	16.000
Tax rate for the year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (Pre Tax) (%)	20.243	20.341	20.341	20.341	20.341
<b>Return on Equity</b>	<b>803.98</b>	<b>870.44</b>	<b>870.44</b>	<b>870.44</b>	<b>870.44</b>

(₹ in lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>



Opening Equity	220.99	223.47	370.62	370.62	370.62
Additional Capitalization	2.48	147.15	0.00	0.00	0.00
Closing Equity	223.47	370.62	370.62	370.62	370.62
Average Equity	222.23	297.05	370.62	370.62	370.62
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax rate for the year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (Pre Tax) (%)	19.610	19.705	19.705	19.705	19.705
<b>Return on Equity</b>	14.45	58.53	73.03	73.03	73.03

(₹ in lakh)

Asset 3					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	591.02	636.11	675.26	675.26	675.26
Additional Capitalization	45.08	39.15	0.00	0.00	0.00
Closing Equity	636.11	675.26	675.26	675.26	675.26
Average Equity	613.57	655.68	675.26	675.26	675.26
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax rate for the year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (Pre Tax) (%)	19.610	19.705	19.705	19.705	19.705
<b>Return on Equity</b>	103.51	129.20	133.06	133.06	133.06

(₹ in lakh)

Asset 4					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	287.57	298.24	302.11	302.11	302.11
Additional Capitalization	10.67	3.87	0.00	0.00	0.00
Closing Equity	298.24	302.11	302.11	302.11	302.11
Average Equity	292.91	300.18	302.11	302.11	302.11
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax rate for the year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (Pre Tax) (%)	19.610	19.705	19.705	19.705	19.705
<b>Return on Equity</b>	49.41	59.15	59.53	59.53	59.53

### Depreciation

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

“(67) **‘Useful life’** in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:

- (a) Coal/Lignite based thermal generating station 25 years
- (b) Gas/Liquid fuel based thermal generating station 25 years
- (c) AC and DC sub-station 25 years
- (d) Gas Insulated Substation (GIS) 25 years
- (d) Hydro generating station including pumped Storage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”

47. The weighted average useful life of the asset has been considered as 27 years for Asset 1 and 2 and 25 years for Asset 3 and 4 in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-



(₹ in lakh)

Asset 1					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	13994.26	14263.97	14263.97	14263.97	14263.97
Additional Capitalization	269.71	0.00	0.00	0.00	0.00
Closing Gross block	14263.97	14263.97	14263.97	14263.97	14263.97
Average Gross block	14129.11	14263.97	14263.97	14263.97	14263.97
Rate of Depreciation (%)	4.82	4.82	4.82	4.82	4.82
Depreciable Value	12716.20	12837.57	12837.57	12837.57	12837.57
Balance useful life of the assets	27.00	26.00	25.00	24.00	23.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	12716.20	11649.01	11031.98	10414.94	9797.90
Depreciation during the year	571.52	617.04	617.04	617.04	617.04
Cumulative depreciation	571.52	1188.56	1805.60	2422.63	3039.67

(₹ in lakh)

Asset 2					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	736.65	744.91	1235.41	1235.41	1235.41
Additional Capitalization	8.26	490.50	0.00	0.00	0.00
Closing Gross block	744.91	1235.41	1235.41	1235.41	1235.41
Average Gross block	740.78	990.16	1235.41	1235.41	1235.41
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	666.70	891.14	1111.87	1111.87	1111.87
Balance useful life of the assets	27.00	26.00	25.00	24.00	23.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	666.70	825.90	981.39	916.16	850.93
Depreciation during the year	12.97	52.28	65.23	65.23	65.23
Cumulative depreciation	12.97	65.25	130.48	195.71	260.94

(₹ in lakh)

Asset 3					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	1970.08	2120.35	2250.85	2250.85	2250.85
Additional Capitalization	150.27	130.50	0.00	0.00	0.00
Closing Gross block	2120.35	2250.85	2250.85	2250.85	2250.85
Average Gross block	2045.22	2185.60	2250.85	2250.85	2250.85
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	1840.70	1967.04	2025.77	2025.77	2025.77



Balance useful life of the assets	25.00	24.00	23.00	22.00	21.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	1840.70	1758.74	1698.62	1579.78	1460.93
Depreciation during the year	92.90	115.40	118.84	118.84	118.84
Cumulative depreciation	92.90	208.30	327.14	445.99	564.83

(₹ in lakh)

Asset 4					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	958.58	994.14	1007.04	1007.04	1007.04
Additional Capitalization	35.56	12.90	0.00	0.00	0.00
Closing Gross block	994.14	1007.04	1007.04	1007.04	1007.04
Average Gross block	976.36	1000.59	1007.04	1007.04	1007.04
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	878.72	900.53	906.34	906.34	906.34
Balance useful life of the assets	25.00	24.00	23.00	22.00	21.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	878.72	803.35	755.98	702.81	649.64
Depreciation during the year	44.35	52.83	53.17	53.17	53.17
Cumulative depreciation	44.35	97.18	150.35	203.52	256.69

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

48. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The norms specified for the assets covered in the instant petition are as follows:-

(in ₹ lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV GIS Bays:</b>					
Norms (₹ lakh/Bay)	51.54	53.25	55.02	56.84	58.73
<b>220 kV Bays:</b>					
Norms (₹ lakh/Bay)	42.21	43.61	45.06	46.55	48.1
<b>132 kV &amp; below Bays:</b>					
Norms (₹ lakh/Bay)	30.15	31.15	32.18	33.25	34.36
<b>D/C Twin/Triple Conductor</b>					



Norms Line (₹ lakh per KM)	0.707	0.731	0.755	0.78	0.806
<b>D/C (Single Conductor)</b>					
Norms Line (₹ lakh per KM)	0.303	0.313	0.324	0.334	0.346
<b>Multi Ckt Twin/Triple</b>					
Norms Line (₹ lakh per KM)	1.24	1.282	1.324	1.368	1.413

49. The details of the elements included in the instant assets and the total allowable O&M Expenses for the instant assets are as follows:-

(in ₹ lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>400 kV GIS Bays:</b>					
No. of Bays	3	3	3	3	3
<b>220 kV Bays:</b>					
No. of Bays	2	2	2	2	2
<b>132 kV &amp; below Bays:</b>					
No. of Bays	2	2	2	2	2
<b>D/C (Single Conductor)</b>					
Line (KM)	0.484	0.484	0.484	0.484	0.484
<b>D/C Twin/Triple Conductor</b>					
Line (KM)	1.95	1.95	1.95	1.95	1.95
<b>Multi Ckt Twin/Triple</b>					
Line (KM)	1.828	1.828	1.828	1.828	1.828
<b>Total O&amp;M Expenses</b>	<b>312.28</b>	<b>344.34</b>	<b>355.77</b>	<b>367.55</b>	<b>379.79</b>

(in ₹ lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>132 kV &amp; below Bays:</b>					
No. of Bays	2	2	2	2	2
<b>D/C (Single Conductor)</b>					
Line (KM)	3.747	3.747	3.747	3.747	3.747
<b>Total O&amp;M Expenses</b>	<b>20.37</b>	<b>63.47</b>	<b>65.57</b>	<b>67.75</b>	<b>70.02</b>

(in ₹ lakh)

<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>400 kV GIS Bays:</b>					
No. of Bays	1	1	1	1	1
<b>220 kV Bays:</b>					
No. of Bays	1	1	1	1	1
<b>Total O&amp;M Expenses</b>	<b>80.65</b>	<b>96.86</b>	<b>100.08</b>	<b>103.39</b>	<b>106.83</b>



(in ₹ lakh)

Asset 4					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV GIS Bays:</b>					
No. of Bays	1	1	1	1	1
<b>Total O&amp;M Expenses</b>	<b>44.34</b>	<b>53.25</b>	<b>55.02</b>	<b>56.84</b>	<b>58.73</b>

50. The petitioner has submitted that the wage revision of the employees of the petitioner company is due during 2014-19 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rate specified for the 2014-19 tariff period. The petitioner has also submitted that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

51. We have considered the submissions of the petitioner. Any application filed by the petitioner for revision of O&M Expenses on account of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations. The O&M Expenses are allowed for the instant transmission assets as per the prevailing norms.

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

52. 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).

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

(₹ in lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	27.77	28.70	29.65	30.63	31.65
Maintenance Spares	49.99	51.65	53.37	55.13	56.97
Receivables	405.38	408.79	405.17	401.72	397.28
Total	483.15	489.14	488.18	487.48	485.90
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	61.11	66.03	65.90	65.81	65.60

(₹ in lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	5.12	5.29	5.46	5.65	5.83
Maintenance Spares	9.22	9.52	9.84	10.16	10.50
Receivables	28.97	35.31	41.34	41.28	41.18
Total	43.30	50.12	56.64	57.08	57.51
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	1.94	6.77	7.65	7.71	7.76

(₹ in lakh)

<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	7.81	8.07	8.34	8.62	8.90
Maintenance Spares	14.06	14.53	15.01	15.51	16.02
Receivables	69.05	72.67	73.90	73.43	72.77



Total	90.92	95.27	97.25	97.56	97.69
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	10.56	12.86	13.13	13.17	13.19

(₹ in lakh)

Asset 4					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	4.30	4.44	4.59	4.74	4.89
Maintenance Spares	7.73	7.99	8.25	8.53	8.81
Receivables	33.94	34.59	34.70	34.59	34.36
Total	45.97	47.02	47.53	47.85	48.06
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	5.34	6.35	6.42	6.46	6.49

### Annual Transmission Charges

54. 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)

Asset 1					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	13994.26	14263.97	14263.97	14263.97	14263.97
Additional Capitalisation	269.71	0.00	0.00	0.00	0.00
Closing Gross Block	14263.97	14263.97	14263.97	14263.97	14263.97
Average Gross Block	14129.11	14263.97	14263.97	14263.97	14263.97
Rate of Depreciation (%)	4.82	4.82	4.82	4.82	4.82
Depreciable Value	12716.20	12837.57	12837.57	12837.57	12837.57
Balance useful life of the asset	27.00	26.00	25.00	24.00	23.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	12716.20	11649.01	11031.98	10414.94	9797.90
Depreciation during the year	571.52	617.04	617.04	617.04	617.04
Cumulative depreciation (incl. of AAD)	571.52	1188.56	1805.60	2422.63	3039.67
<b>Interest on Loan</b>					



<b>Asset 1</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	9795.98	9984.78	9984.78	9984.78	9984.78
Cumulative Repayments upto Previous Year	0.00	571.52	1188.56	1805.60	2422.63
Net Loan-Opening	9795.98	9413.26	8796.22	8179.18	7562.15
Additions	188.80	0.00	0.00	0.00	0.00
Repayment during the year	571.52	617.04	617.04	617.04	617.04
Net Loan-Closing	9413.26	8796.22	8179.18	7562.15	6945.11
Average Loan	9604.62	9104.74	8487.70	7870.66	7253.63
Weighted Average Rate of Interest on Loan (%)	5.8907	6.0947	6.1484	6.2189	6.2155
Interest on Loan	530.13	554.91	521.86	489.47	450.85
<b>Return on Equity</b>					
Opening Equity	4198.28	4279.19	4279.19	4279.19	4279.19
Additions	80.91	0.00	0.00	0.00	0.00
Closing Equity	4279.19	4279.19	4279.19	4279.19	4279.19
Average Equity	4238.73	4279.19	4279.19	4279.19	4279.19
Return on Equity (Base Rate) (%)	16.000	16.000	16.000	16.000	16.000
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	20.243	20.341	20.341	20.341	20.341
Return on Equity	803.98	870.44	870.44	870.44	870.44
<b>Interest on Working Capital</b>					
O & M Expenses	27.77	28.70	29.65	30.63	31.65
Maintenance Spares	49.99	51.65	53.37	55.13	56.97
Receivables	405.38	408.79	405.17	401.72	397.28
Total Working Capital	483.15	489.14	488.18	487.48	485.90
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	61.11	66.03	65.90	65.81	65.60
<b>Annual Transmission Charges</b>					
Depreciation	571.52	617.04	617.04	617.04	617.04
Interest on Loan	530.13	554.91	521.86	489.47	450.85
Return on Equity	803.98	870.44	870.44	870.44	870.44
Interest on Working Capital	61.11	66.03	65.90	65.81	65.60
O & M Expenses	312.28	344.34	355.77	367.55	379.79
<b>Total</b>	<b>2279.02</b>	<b>2452.76</b>	<b>2431.00</b>	<b>2410.30</b>	<b>2383.71</b>



(₹ in lakh)

<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	736.65	744.91	1235.41	1235.41	1235.41
Additional Capitalisation	8.26	490.50	0.00	0.00	0.00
Closing Gross Block	744.91	1235.41	1235.41	1235.41	1235.41
Average Gross Block	740.78	990.16	1235.41	1235.41	1235.41
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	666.70	891.14	1111.87	1111.87	1111.87
Balance useful life of the asset	27.00	26.00	25.00	24.00	23.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	666.70	825.90	981.39	916.16	850.93
Depreciation during the year	12.97	52.28	65.23	65.23	65.23
Cumulative depreciation (incl. of AAD)	12.97	65.25	130.48	195.71	260.94
<b>Interest on Loan</b>					
Gross Normative Loan	515.65	521.44	864.79	864.79	864.79
Cumulative Repayments upto Previous Year	0.00	12.97	65.25	130.48	195.71
Net Loan-Opening	515.65	508.47	799.54	734.31	669.08
Additions	5.78	343.35	0.00	0.00	0.00
Repayment during the year	12.97	52.28	65.23	65.23	65.23
Net Loan-Closing	508.47	799.54	734.31	669.08	603.85
Average Loan	512.06	654.00	766.92	701.69	636.46
Weighted Average Rate of Interest on Loan (%)	4.6510	4.7060	4.7672	4.8356	4.8722
Interest on Loan	7.90	30.78	36.56	33.93	31.01
<b>Return on Equity</b>					
Opening Equity	220.99	223.47	370.62	370.62	370.62
Additions	2.48	147.15	0.00	0.00	0.00
Closing Equity	223.47	370.62	370.62	370.62	370.62
Average Equity	222.23	297.05	370.62	370.62	370.62
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.610	19.705	19.705	19.705	19.705



<b>Asset 2</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
(%)					
Return on Equity	14.45	58.53	73.03	73.03	73.03
<b>Interest on Working Capital</b>					
O & M Expenses	5.12	5.29	5.46	5.65	5.83
Maintenance Spares	9.22	9.52	9.84	10.16	10.50
Receivables	28.97	35.31	41.34	41.28	41.18
Total Working Capital	43.30	50.12	56.64	57.08	57.51
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	1.94	6.77	7.65	7.71	7.76
<b>Annual Transmission Charges</b>					
Depreciation	12.97	52.28	65.23	65.23	65.23
Interest on Loan	7.90	30.78	36.56	33.93	31.01
Return on Equity	14.45	58.53	73.03	73.03	73.03
Interest on Working Capital	1.94	6.77	7.65	7.71	7.76
O & M Expenses	20.37	63.47	65.57	67.75	70.02
<b>Total</b>	<b>57.61</b>	<b>211.83</b>	<b>248.04</b>	<b>247.65</b>	<b>247.05</b>

(₹ in lakh)

<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	1970.08	2120.35	2250.85	2250.85	2250.85
Additional Capitalisation	150.27	130.50	0.00	0.00	0.00
Closing Gross Block	2120.35	2250.85	2250.85	2250.85	2250.85
Average Gross Block	2045.22	2185.60	2250.85	2250.85	2250.85
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	1840.70	1967.04	2025.77	2025.77	2025.77
Balance useful life of the asset	25.00	24.00	23.00	22.00	21.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	1840.70	1758.74	1698.62	1579.78	1460.93
Depreciation during the year	92.90	115.40	118.84	118.84	118.84
Cumulative depreciation (incl. of AAD)	92.90	208.30	327.14	445.99	564.83
<b>Interest on Loan</b>					



<b>Asset 3</b>					
<b>Particulars</b>	<b>2014-15 (Pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	1379.06	1484.25	1575.60	1575.60	1575.60
Cumulative Repayments upto Previous Year	0.00	92.90	208.30	327.14	445.99
Net Loan-Opening	1379.06	1391.35	1367.30	1248.45	1129.61
Additions	105.19	91.35	0.00	0.00	0.00
Repayment during the year	92.90	115.40	118.84	118.84	118.84
Net Loan-Closing	1391.35	1367.30	1248.45	1129.61	1010.76
Average Loan	1385.20	1379.32	1307.88	1189.03	1070.19
Weighted Average Rate of Interest on Loan (%)	5.7726	5.9211	5.9864	6.0661	6.0439
Interest on Loan	68.79	81.67	78.30	72.13	64.68
<b>Return on Equity</b>					
Opening Equity	591.02	636.11	675.26	675.26	675.26
Additions	45.08	39.15	0.00	0.00	0.00
Closing Equity	636.11	675.26	675.26	675.26	675.26
Average Equity	613.57	655.68	675.26	675.26	675.26
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	103.51	129.20	133.06	133.06	133.06
<b>Interest on Working Capital</b>					
O & M Expenses	7.81	8.07	8.34	8.62	8.90
Maintenance Spares	14.06	14.53	15.01	15.51	16.02
Receivables	69.05	72.67	73.90	73.43	72.77
Total Working Capital	90.92	95.27	97.25	97.56	97.69
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	10.56	12.86	13.13	13.17	13.19
<b>Annual Transmission Charges</b>					
Depreciation	92.90	115.40	118.84	118.84	118.84
Interest on Loan	68.79	81.67	78.30	72.13	64.68
Return on Equity	103.51	129.20	133.06	133.06	133.06
Interest on Working Capital	10.56	12.86	13.13	13.17	13.19
O & M Expenses	80.65	96.86	100.08	103.39	106.83
<b>Total</b>	<b>356.41</b>	<b>436.00</b>	<b>443.41</b>	<b>440.59</b>	<b>436.61</b>



(₹ in lakh)

<b>Asset 4</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	958.58	994.14	1007.04	1007.04	1007.04
Additional Capitalisation	35.56	12.90	0.00	0.00	0.00
Closing Gross Block	994.14	1007.04	1007.04	1007.04	1007.04
Average Gross Block	976.36	1000.59	1007.04	1007.04	1007.04
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	878.72	900.53	906.34	906.34	906.34
Balance useful life of the asset	25.00	24.00	23.00	22.00	21.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	878.72	803.35	755.98	702.81	649.64
Depreciation during the year	44.35	52.83	53.17	53.17	53.17
Cumulative depreciation (incl. of AAD)	44.35	97.18	150.35	203.52	256.69
<b>Interest on Loan</b>					
Gross Normative Loan	671.01	695.90	704.93	704.93	704.93
Cumulative Repayments upto Previous Year	0.00	44.35	97.18	150.35	203.52
Net Loan-Opening	671.01	651.55	607.75	554.58	501.40
Additions	24.89	9.03	0.00	0.00	0.00
Repayment during the year	44.35	52.83	53.17	53.17	53.17
Net Loan-Closing	651.55	607.75	554.58	501.40	448.23
Average Loan	661.28	629.65	581.16	527.99	474.82
Weighted Average Rate of Interest on Loan (%)	5.5830	5.7146	5.8565	5.9717	5.9468
Interest on Loan	31.76	35.98	34.04	31.53	28.24
<b>Return on Equity</b>					
Opening Equity	287.57	298.24	302.11	302.11	302.11
Additions	10.67	3.87	0.00	0.00	0.00
Closing Equity	298.24	302.11	302.11	302.11	302.11
Average Equity	292.91	300.18	302.11	302.11	302.11
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	49.41	59.15	59.53	59.53	59.53



<b>Asset 4</b>					
<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Interest on Working Capital</b>					
O & M Expenses	4.30	4.44	4.59	4.74	4.89
Maintenance Spares	7.73	7.99	8.25	8.53	8.81
Receivables	33.94	34.59	34.70	34.59	34.36
Total Working Capital	45.97	47.02	47.53	47.85	48.06
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	5.34	6.35	6.42	6.46	6.49
<b>Annual Transmission Charges</b>					
Depreciation	44.35	52.83	53.17	53.17	53.17
Interest on Loan	31.76	35.98	34.04	31.53	28.24
Return on Equity	49.41	59.15	59.53	59.53	59.53
Interest on Working Capital	5.34	6.35	6.42	6.46	6.49
O & M Expenses	44.34	53.25	55.02	56.84	58.73
<b>Total</b>	<b>175.20</b>	<b>207.56</b>	<b>208.18</b>	<b>207.53</b>	<b>206.16</b>

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

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

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

56. 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**

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

### **Sharing of Transmission Charges**

58. The billing, collection of the transmission charges of the instant assets shall be shared by the long term customers/beneficiaries in accordance to 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.

59. This order disposes of Petition No. 68/TT/2016

**(Dr. M. K. Iyer)**  
**Member**

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



**ANNEXURE-I****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

(₹ in lakh)

<b>Asset 1</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
BOND-XXXIV-Loan 1-	8.84	85.00	0.00	85.00
BOND-XXXV-Loan 2-	9.64	4.00	0.00	4.00
BOND XXXVI-Loan 3-	9.35	14.00	0.00	14.00
BOND XXXVII-Loan 4-	9.25	79.00	0.00	79.00
BOND XXXIX-Loan 5-	9.40	99.00	0.00	99.00
SBI (21.03.2012)-Loan 6-	10.25	130.00	0.00	130.00
BOND XL-Loan 7-	9.30	294.00	0.00	294.00
BOND - XLII-Loan 8-	8.80	50.72	0.00	50.72
IFC (IFC - A LOAN) (31419-00)- Loan 9-61.58	3.23	4400.00	0.00	4400.00
IFC (IFC - B LOAN) (31419-01)- Loan 10-61.58	2.38	366.66	0.00	366.66
IFC (ICFF LOAN) (31419-02)-Loan 11-61.58	3.23	152.78	0.00	152.78
FC - BOND (17.01.2013)-Loan 12- 61.58	4.10	366.66	0.00	366.66
BOND-XLIII-Loan 13-	7.93	1580.00	0.00	1580.00
BOND - XLIV-ADDCAP FOR 2014- 2015 Add cap loan 1-	8.70	0.00	190.65	190.65
BOND-XLIV-DOCO Loan 14-	8.70	2229.81	0.00	2229.81
BOND XLVI -ADDCAP FOR 2014- 2015 Add cap loan 2-	9.30	0.00	979.78	979.78
<b>Total</b>		<b>9851.63</b>	<b>1170.43</b>	<b>11022.06</b>

(₹ in lakh)

<b>Asset 2</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
BOND-XXXIV-DOCO Loan-	8.84	2.00	0.00	2.00
BOND-XXXV-DOCO Loan 1-	9.64	1.00	0.00	1.00
BOND XXXVI-DOCO Loan 2-	9.35	1.00	0.00	1.00



<b>Asset 2</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
BOND XXXVII-DOCO Loan 3-	9.25	2.00	0.00	2.00
BOND XXXIX-DOCO Loan 4-	9.40	3.00	0.00	3.00
SBI (21.03.2012)-DOCO Loan 5-	10.25	4.00	0.00	4.00
BOND XL-DOCO Loan 6-	9.30	10.00	0.00	10.00
BOND - XLII-DOCO Loan 7-	8.80	2.00	0.00	2.00
IFC (IFC - A LOAN) (31419-00)-DOCO Loan 8-62.72	3.23	307.89	0.00	307.89
IFC (IFC - B LOAN) (31419-01)-DOCO Loan 9-62.72	2.38	31.36	0.00	31.36
IFC (ICFF LOAN) (31419-02)-DOCO Loan 10-62.72	3.23	31.36	0.00	31.36
FC - BOND (17.01.2013)-DOCO Loan 11-62.72	4.10	31.36	0.00	31.36
BOND - XLIII-DOCO Loan 12-	7.93	27.00	0.00	27.00
BOND - XLIV-DOCO Loan 13-	8.70	35.00	0.00	35.00
BOND XLVI -DOCO Loan 14-	9.30	45.17	0.00	45.17
Bond XLVII-ADDCAP FOR 2014-2015 add cap loan-	8.93	0.00	5.78	5.78
<b>Total</b>		<b>534.14</b>	<b>5.78</b>	<b>539.92</b>

(₹ in lakh)

<b>Asset 3</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
BOND-XXXIV-DOCO Loan-	8.84	8.00	0.00	8.00
BOND-XXXV-DOCO Loan 1-	9.64	1.00	0.00	1.00
BOND XXXVI-DOCO Loan 1-	9.35	1.00	0.00	1.00
BOND XXXVII-DOCO Loan 3-	9.25	7.00	0.00	7.00
BOND XXXIX-DOCO Loan 4-	9.40	10.00	0.00	10.00
SBI (21.03.2012)-DOCO Loan 5-	10.25	10.00	0.00	10.00
BOND XL-DOCO Loan 6-	9.30	28.00	0.00	28.00
BOND - XLII-DOCO Loan 7-	8.80	5.00	0.00	5.00
IFC (IFC - A LOAN) (31419-00)-DOCO Loan 8-59.16	3.23	580.83	0.00	580.83
IFC (IFC - B LOAN) (31419-01)-DOCO Loan 9-59.16	2.38	59.16	0.00	59.16
IFC (ICFF LOAN) (31419-02)-DOCO Loan 10-59.16	3.23	59.16	0.00	59.16
FC - BONO (17.01.2013)-DOCO	4.10	59.16	0.00	59.16



<b>Asset 3</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
Loan 11- 59.16				
BOND - XLIII-DOCO Loan 12-	7.93	188.00	0.00	188.00
BOND - XLIV-DOCO Loan 12-	8.70	350.20	0.00	350.20
BOND XLVI -ADDCAP FOR 2014-2015 Add cap loan 1-	9.30	0.00	18.77	18.77
BOND XLVI -DOCO Loan 13-	9.30	20.79	0.00	20.79
Bond XLVII-ADDCAP FOR 2014-2015 DOCO Loan 14-	8.93	0.00	88.31	88.31
<b>Total</b>		<b>1387.30</b>	<b>107.08</b>	<b>1494.38</b>

(₹ in lakh)

<b>Asset 4</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
BOND-XXXIV-Doco loan-	8.84	4.00	0.00	4.00
BOND-XXXV-Doco loan 1-	9.64	1.00	0.00	1.00
BOND XXXVI-Doco loan 2-	9.35	1.00	0.00	1.00
BOND XXXVII-Doco loan 3-	9.25	3.00	0.00	3.00
BOND XXXIX-Doco loan 10-	9.40	5.00	0.00	5.00
SBI (21.03.2012)-Doco loan 5-	10.25	6.00	0.00	6.00
BOND XL-Doco loan 6-	9.30	15.00	0.00	15.00
BOND - XLII-Doco loan 6-	8.80	3.00	0.00	3.00
IFC (1FC - A LOAN) (31419-00)-Doco loan 7-59.16	3.23	242.02	0.00	242.02
IFC (IFC - B LOAN) (31419-01)-Doco loan 8-59.16	2.38	59.16	0.00	59.16
IFC (ICFF LOAN) (31419-02)-Doco loan 9-59.16	3.23	29.58	0.00	29.58
FC - BOND (17.01.2013)-Doco loan 10-59.16	4.10	59.16	0.00	59.16
BOND-XLIII-Doco loan 12-	7.93	76.00	0.00	76.00
BOND - XLIV-Doco loan 13-	8.70	143.04	0.00	143.04
BOND XLVI -ADDCAP FOR 2014-2015 Add cap loan 1-	9.30	0.00	8.01	8.01
BOND XLVI -Doco loan 14-	9.30	27.92	0.00	27.92
Bond XLVII-ADDCAP FOR 2014-2015 Add cap loan -	8.93	0.00	17.69	17.69
<b>Total</b>		<b>674.88</b>	<b>25.70</b>	<b>700.58</b>



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

(₹ in lakh)

<b>Asset 1</b>					
<b>Summary</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	9851.63	11022.06	11022.06	11022.06	11022.06
Cumulative Repayments of Loans upto Previous Year	0.00	7.08	204.40	438.97	1077.16
Net Loans Opening	9851.63	11014.98	10817.66	10583.09	9944.90
Add: Draw(s) during the Year	1170.43	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	7.08	197.32	234.57	638.19	1445.01
Net Closing Loan	11014.98	10817.66	10583.09	9944.90	8499.89
Average Net Loan	10433.31	10916.32	10700.38	10264.00	9222.40
Rate of Interest on Loan (%)	5.8907	6.0947	6.1484	6.2189	6.2155
Interest on Loan	614.59	665.32	657.90	638.30	573.22

(₹ in lakh)

<b>Asset 2</b>					
<b>Summary</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	534.14	539.92	539.92	539.92	539.92
Cumulative Repayments of Loans upto Previous Year	0.17	0.17	16.27	33.63	71.49
Net Loans Opening	533.97	539.75	523.65	506.29	468.43
Add: Draw(s) during the Year	5.78	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	16.10	17.36	37.86	50.01
Net Closing Loan	539.75	523.65	506.29	468.43	418.42
Average Net Loan	536.86	531.70	514.97	487.36	443.43
Rate of Interest on Loan (%)	4.6510	4.7060	4.7672	4.8356	4.8722
Interest on Loan	24.97	25.02	24.55	23.57	21.60

(₹ in lakh)

<b>Asset 3</b>					
<b>Summary</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	1387.30	1494.38	1494.38	1494.38	1494.38
Cumulative Repayments of Loans upto Previous Year	0.00	0.67	31.58	65.80	150.11



<b>Asset 3</b>					
<b>Summary</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Net Loans Opening	1387.30	1493.71	1462.80	1428.58	1344.27
Add: Draw(s) during the Year	107.08	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.67	30.91	34.22	84.31	208.40
Net Closing Loan	1493.71	1462.80	1428.58	1344.27	1135.87
Average Net Loan	1440.51	1478.26	1445.69	1386.43	1240.07
Rate of Interest on Loan (%)	5.7726	5.9211	5.9864	6.0661	6.0439
Interest on Loan	83.15	87.53	86.55	84.10	74.95

(₹ in lakh)

<b>Asset 4</b>					
<b>Summary</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	674.88	700.58	700.58	700.58	700.58
Cumulative Repayments of Loans upto Previous Year	0.00	0.33	30.57	62.68	98.70
Net Loans Opening	674.88	700.25	670.01	637.90	601.88
Add: Draw(s) during the Year	25.70	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.33	30.24	32.11	36.02	85.17
Net Closing Loan	700.25	670.01	637.90	601.88	516.71
Average Net Loan	687.57	685.13	653.96	619.89	559.30
Rate of Interest on Loan (%)	5.5830	5.7146	5.8565	5.9717	5.9468
Interest on Loan	38.39	39.15	38.30	37.02	33.26

