

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO. 552/TT/2014**

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

**Date of Hearing: 13.01.2016**  
**Date of Order : 28.01.2016**

**In the Matter of:**

Truing up of transmission tariff for 2009-14 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 and determination of transmission tariff for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014 of (i) LILO of Korba-Raipur at Sipat, (ii) 765 kV Sipat-Seoni Ckt-I, (iii) 400/220 kV ICT-I at Seoni, (iv) Ckt-II of 400 kV Nagda-Dehgam Line, (v) Ckt-I of Nagda-Dehgam Line, (vi) 400 kV D/C Seoni-Khandwa T/Line, 80 MVAR Bus Reactor, 765/400 kV ICT-II at Seoni S/S, LILO of Sardar-Sarovar-Nagda Line at Rajgarh, (vii) 765 kV Sipat-Seoni Ckt-II and (viii) 315 MVA 400/220 kV ICT-II at Seoni S/S, ICT-I at Rajgarh and (ix) 315 MVA 400/220 kV ICT-II at Rajgarh under Sipat-I Transmission System in Western Region under and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999.

**And in the Matter of:**

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

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Management Company Ltd.  
Shakti Bhawan, Rampur  
Jabalpur - 482008
2. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4th Floor  
Andheri (East), Mumbai - 400 052
3. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,



Race Course Road  
Vadodara - 390 007

4. Electricity Department Govt. Of Goa  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, Goa - 403 001
5. Electricity Department  
Administration of Daman & Diu  
Daman - 396 210
6. Electricity Department  
Administration Of Dadra Nagar Haveli  
U.T., Silvassa - 396 230
7. Chhattisgarh State Electricity Board  
P.O.Sunder Nagar, Dangania, Raipur  
Chhatisgarh-492013
8. Madhya Pradesh Audyogik Kendra  
Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road,  
Indore-452 008

.....Respondent(s)

The following were present:

For Petitioner:        Shri Rakesh Prasad, PGCIL  
                              Shri M.M. Mondal, PGCIL  
                              Shri Vivek Kumar Singh, PGCIL  
                              Shri S.S. Raju, PGCIL  
                              Shri D.K. Varma, PGCIL  
                              Shri Mohd. Mohsin, PGCIL  
                              Shri Avinash Pavgi, PGCIL  
                              Smt. Sonam Gangwar, PGCIL

For Respondents:    None



## ORDER

The petition has been preferred by Power Grid Corporation of India Limited (hereinafter referred to as “the petitioner”), a transmission licensee, for revision of tariff under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on truing up of capital expenditure for the period 1.4.2009 to 31.3.2014 and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019 in respect of (i) LILO of Korba-Raipur at Sipat, (ii) 765 kV Sipat-Seoni Ckt-I, (iii) 400/220 kV ICT-I at Seoni, (iv) Ckt-II of 400 kV Nagda-Dehgam Line, (v) Ckt-I of Nagda-Dehgam Line, (vi) 400 kV D/C Seoni-Khandwa T/Line, 80 MVAR Bus Reactor, 765/400 kV ICT-II at Seoni S/S, LILO of Sardar-Sarovar-Nagda Line at Rajgarh, (vii) 765 kV Sipat-Seoni Ckt-II (hereinafter “Combined Assets Part-I”) and (viii) 315 MVA 400/220 kV ICT-II at Seoni S/S, ICT-I at Rajgarh and (ix) 315 MVA 400/220 kV ICT-II at Rajgarh (hereinafter “Combined Assets Part-II”) under Sipat-I Transmission System in Western Region (hereinafter referred to as “the transmission assets”).

2. The respondents are distribution licensees, who are procuring transmission service from the petitioner, mainly beneficiaries of Western Region.

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

a) The investment approval for the transmission system was accorded by the Ministry of Power vide its letter no. 12/4/2001-PG dated 10.12.2003 at an estimated cost of ₹167298 lakh including IDC of ₹12323 lakh. Subsequently,



Ministry of Power, vide its letter No. 12/1/2007-PG dated 5.3.2008 accorded approval for revised cost estimate of ₹233114 lakh including IDC of ₹16072 lakh (4<sup>th</sup> quarter, 2006 price level). Various transmission assets of the System have been executed progressively from 2006 to 2008 as per the details below:-

<b>Asset</b>	<b>Name of the Asset</b>	<b>COD</b>	<b>Apportioned approved cost</b>
Asset-I	LILO of Korba-Raipur 400 kV S/C line	1.5.2006	709.17
Asset-II	765 kV Sipat-Seoni Ckt 1 along with associated bays, 765/400 kV ICT-I at Seoni and LILO of 400 kV Bhilai-Satpura line along with bay equipment	1.11.2007	56770.79
Asset-III	400/220 kV ICT at Seoni along with two 220 kV line bays	1.12.2007	2477.64
Asset-IV	Ckt II of 400 kV D/C Nagada-Dehgam line	1.1.2008	30099.48
Asset-V	Ckt 1 of 400 kV D/C Nagda-Dehgam line	1.2.2008	9908.10
Asset-VI	400 kV D/C Seoni-Khandwa TL, 80 MVAR Bus reactor, 765/400 kV ICT II at Seoni S/S, LILO of Sarda-Sarovar-Nagda line	1.4.2008	78930.26
Asset-VII	765 kV Sipat-Seoni Ckt II	1.5.2008	48822.14
<b>Combined Assets Part-I</b>	<b>Notional COD: 1.5.2008</b>		<b>227717.58</b>
Asset-VIII	315 MVA 400/220 kV ICT II at Seoni S/S, 315 MVA 400/220 kV ICT I	1.4.2008	3995.00
Asset-IX	315 MVA ICT II	1.4.2009	1401.66
<b>Combined Assets Part-II</b>	<b>Notional COD: 1.4.2009</b>		<b>5396.66</b>
<b>Total apportioned approved cost</b>			<b>233114.24</b>

b) The annual transmission charges for 2009-14 tariff period were determined vide order dated 27.4.2011 in Petition No. 270/2010 based on admitted capital cost of the transmission assets and debt:equity as on 31.3.2009.

c) In addition to the above, the Commission had also allowed estimated additional capital expenditure amounting to ₹7637.40 lakh in Combined Assets Part-I and ₹511.97 lakh in Combined Assets Part-II towards entry tax and balance and retention payments during 2009-11 for determination of tariff for 2009-14 tariff period.

d) The Commission determined the tariff for 2009-14 tariff period, based on the above capital cost and estimated additional capital expenditure for the transmission assets during 2009-14 as given below:-

**(i) Combined Assets Part-I**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	11295.63	11492.59	11604.53	11604.53	11604.53
Interest on Loan	9536.90	8969.60	8248.27	7400.16	6556.01
Return on Equity	11262.24	11462.51	11575.71	11575.71	11575.71
Interest on Working Capital	783.62	786.65	783.23	772.91	763.04
O & M Expenses	2292.85	2424.40	2562.80	2709.78	2864.21
<b>Total</b>	<b>35171.24</b>	<b>35135.76</b>	<b>34774.54</b>	<b>34063.09</b>	<b>33363.50</b>

**(ii) Combined Assets Part-II**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	314.85	328.15	330.57	330.57	330.57
Interest on Loan	312.53	301.96	277.95	250.68	223.24
Return on Equity	314.14	327.57	329.97	329.97	329.97
Interest on Working Capital	44.00	45.73	46.81	47.80	48.87
O & M Expenses	487.32	515.22	544.71	575.82	608.76
<b>Total</b>	<b>1472.84</b>	<b>1518.63</b>	<b>1530.01</b>	<b>1534.84</b>	<b>1541.41</b>

4. As per Regulation 6 of the 2009 Tariff Regulations, the Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to

31.3.2014, as admitted by the Commission after prudence check at the time of truing up. Further, as per Regulation 15 of the 2009 Tariff Regulations, the petitioner is required to adjust the yearly impact of MAT rate in the truing up petition for 2009-14 tariff period.

5. In this context, the petitioner has filed the instant petition on 6.12.2014, for revision of tariff for the tariff period 2009-14 in accordance with Regulation 6 of the 2009 Tariff Regulations.

6. The petitioner has served the petition to the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act 2003. No comments/objections have been received from the public in response to the notice in newspaper.

7. The hearing in this matter was held on 13.1.2016. The Commission, through its letter dated 14.1.2016, asked the petitioner to submit the details of undischarged liabilities and actual equity infused during 2009-14 and 2014-19 tariff periods. The petitioner has filed the rejoinder vide affidavit dated 22.1.2016.

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

**TRUING UP OF ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD:-**

9. Clause (3) of the Regulation 6 of the 2009 Tariff Regulations provides as under:-

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional

capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors”.

10. The petitioner has submitted the information as required under the 2009 Tariff Regulations for truing up of annual fixed charges for 2009-14 tariff period. The tariff for 2009-14 tariff period has been trued up in the subsequent paragraphs.

### **Capital Cost**

11. The last proviso to Regulation 7(2) of the 2009 Tariff Regulations provides that:-

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”.

12. The petitioner has claimed the capital cost of ₹213115.79 lakh for Combined Assets Part-I and ₹5788.54 lakh for Combined Assets Part-II as on 31.3.2009, as admitted by the Commission vide order dated 27.4.2011 in Petition No. 270/2010.

13. It is observed that the capital cost of Asset- VIII is ₹4888.05 lakh, which exceeds its apportioned approved cost of ₹3995.00 lakh. The cost over-run for Asset-VIII has substantial variation as compared to the approved apportioned cost estimate. Therefore, the petitioner is required to submit the apportioned approved cost baed on revised cost estimate (RCE) duly approved by its Board. The petitioner has not furnished the RCE for the asset covered in the instant case. Accordingly, the capital cost of this asset is restricted to the apportioned approved cost. This approach has been upheld by the Appellate Tribunal for Electricity in its order dated 28.11.2013 in Appeal No. 165 of 2012, and subsequently the Commission, vide its order dated 18.2.2014 in Petition No. 216/TT/2012, has considered the apportioned approved cost

of individual asset for restricting the capital expenditure due to cost over-run for the purpose of tariff determination. The same approach has been adopted in the present case and capital expenditure has been restricted to apportioned approved cost. Accordingly, the capital cost of Asset-VIII considered for tariff determination purpose, after restricting it to the apportioned approved cost, is considered to be ₹3995.00 lakh. However, the petitioner is at liberty to approach the Commission with the RCE and justification for cost over-run in respect of Asset-VIII.

14. For the remaining assets, the capital cost as admitted by the Commission vide order dated 27.4.2011 in Petition No. 270/2010, has been considered as opening capital cost as on 1.4.2009 for determination of trued up tariff in accordance with Regulation 7 of the 2009 Tariff Regulations.

### **Additional Capital Expenditure**

15. Regulation 6(1) of the 2009 Regulations provides that:-

“The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014”

16. The petitioner has submitted that it has actually incurred an additional capital expenditure of ₹7001.45 lakh in Combined Assets Part-I and ₹513.63 lakh in Combined Assets Part-II during 2009-14 towards balance and retention payments, for the works completed before the cut-off date, as depicted below:-



(₹ in lakh)

Assets		Cost as on 31.3.2009	Actual Additional capital expenditure					Estimated total cost up to 31.3.2014	
			2009-10	2010-11	2011-12	2012-13	2013-14		Total
Asset-I	Approved*	636.48	0.00	0.00	0.00	0.00	0.00	0.00	636.48
	Claimed	636.48	0.00	0.00	0.00	0.00	0.00	0.00	636.48
Asset-II	Approved*	52555.54	425.16	1159.55	0.00	0.00	0.00	1584.71	54140.25
	Claimed	52555.54	37.09	241.54	173.96	76.51	357.67	886.77	53442.31
Asset-III	Approved*	2340.80	101.39	0.00	0.00	0.00	0.00	101.39	2442.19
	Claimed	2340.80	0.00	4.58	69.38	0.00	0.00	73.96	2414.76
Asset-IV	Approved*	28805.31	294.92	237.67	0.00	0.00	0.00	532.59	29337.90
	Claimed	28805.31	294.92	74.64	135.52	2.54	0.00	507.62	29312.93
Asset-V	Approved*	9535.67	156.06	42.15	0.00	0.00	0.00	198.21	9733.88
	Claimed	9535.67	156.06	42.15	0.00	0.00	0.00	198.21	9733.88
Asset-VI	Approved*	73606.40	1671.99	2225.56	0.00	0.00	0.00	3897.55	77503.95
	Claimed	73606.40	1671.99	1271.64	623.77	3.77	4.89	3576.06	77182.46
Asset-VII	Approved*	45635.59	670.90	652.05	0.00	0.00	0.00	1322.95	46958.54
	Claimed	45635.59	125.23	895.32	274.05	106.56	357.67	1758.83	47394.42
<b>Sub-total (Combined Assets Part-I)</b>	<b>Approved*</b>	<b>213115.79</b>	<b>3320.42</b>	<b>4316.98</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7637.40</b>	<b>220753.19</b>
	<b>Claimed</b>	<b>213115.79</b>	<b>2285.29</b>	<b>2529.87</b>	<b>1276.68</b>	<b>189.38</b>	<b>720.23</b>	<b>7001.45</b>	<b>220117.24</b>
Asset-VIII	Approved*	4508.86	372.89	6.30	0.00	0.00	0.00	379.19	4888.05
	Claimed	4508.86	372.89	6.30	0.00	0.00	0.00	379.19	4888.05
Asset-IX	Approved*	1279.68	47.46	85.32	0.00	0.00	0.00	132.78	1412.46
	Claimed	1279.68	47.46	86.98	0.00	0.00	0.00	134.44	1414.12
<b>Sub-total (Combined Assets Part-II)</b>	<b>Approved*</b>	<b>5788.54</b>	<b>420.35</b>	<b>91.62</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>511.97</b>	<b>6300.51</b>
	<b>Claimed</b>	<b>5788.54</b>	<b>420.35</b>	<b>93.28</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>513.63</b>	<b>6302.17</b>
<b>Grand Total</b>	<b>Approved*</b>	<b>218904.33</b>	<b>3740.77</b>	<b>4408.60</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>8149.37</b>	<b>227053.70</b>
	<b>Claimed</b>	<b>218904.33</b>	<b>2705.64</b>	<b>2623.15</b>	<b>1276.68</b>	<b>189.38</b>	<b>720.23</b>	<b>7515.08</b>	<b>226419.41</b>

\*As per CERC order dated 27.4.2011 in Petition No. 270/TT/2010

17. We have considered the submissions of the petitioner with regard to the actual capital expenditure during 2009-14. The above mentioned additional capital expenditure



is on account of undischarged liability towards balance and retention payments and the same has been certified by the Auditor vide Certificates dated 19.7.2014 and 9.9.2014 for the instant transmission assets. The petitioner has submitted, vide affidavit dated 22.1.2016, that the additional expenditure incurred against the land component after the COD of Asset-II and VII has been for additional compensation as per the Government Order. It is further observed that the actual additional capital expenditure in respect of Asset-VII and Asset-IX exceeds the additional capital expenditure approved by the Commission vide order dated 27.4.2011. Further, the total capital cost of Asset-IX as on 31.3.2014, after including the actual additional capital expenditure of ₹134.44, is ₹1414.12 lakh and the same exceeds the apportioned approved cost of ₹1401.66 lakh. The total cost of Asset-IX is more than its approved apportioned cost estimate. Therefore, the petitioner is required to submit the apportioned cost based revised cost estimate (RCE) duly approved by its Board. The petitioner has not furnished the RCE for Asset- IX covered in the instant case. Accordingly, the total capital cost of this asset (including additional capital expenditure during 2009-14 period) is restricted to the apportioned approved cost, in line with the approach adopted in para 13. However, the petitioner is at liberty to approach the Commission with the RCE and justification for cost over-run in respect of Asset-IX.

18. For the Combined Assets Part-I, part additional capital expenditure towards balance and retention payments falls within the cut-off date of 31.3.2010 and remaining after the cut-off date, for the works executed within the original scope of work.

19. For the Combined Assets Part-II, the additional capital expenditure towards balance and retention payments falls within the cut-off date of 31.3.2012 and is for the works executed within the original scope of work.



20. The total completion cost of all the assets except Asset-VIII and Asset-IX, is within the cost approved as per Revised Cost Estimate dated 5.3.2008. Thus, the additional capital expenditure allowed in respect of Combined Assets Part-I and Part-II for the purpose of revision of tariff in accordance with the aforementioned observations and Regulation 6, Regulation 9(1) of the 2009 Tariff Regulations are as below:

Asset	Capital cost as on 31.3.2009	Actual Additional capital expenditure						Total cost up to 31.3.2014
		2009-10	2010-11	2011-12	2012-13	2013-14	Total	
Asset-I	636.48	0.00	0.00	0.00	0.00	0.00	0.00	636.48
Asset-II	52555.54	37.09	241.54	173.96	76.51	357.67	886.77	53442.31
Asset-III	2340.80	0.00	4.58	69.38			73.96	2414.76
Asset-IV	28805.31	294.92	74.64	135.52	2.54		507.62	29312.93
Asset-V	9535.67	156.06	42.15				198.21	9733.88
Asset-VI	73606.40	1671.99	1271.64	623.77	3.77	4.89	3576.06	77182.46
Asset-VII	45635.59	125.23	895.32	274.05	106.56	357.67	1758.83	47394.42
<b>Combined Asset-I</b>	<b>213115.79</b>	<b>2285.29</b>	<b>2529.87</b>	<b>1276.68</b>	<b>189.38</b>	<b>720.23</b>	<b>7001.45</b>	<b>220117.24</b>
Asset-VIII	3995.00 (4508.86-513.86)*	0.00	0.00	0.00	0.00	0.00	0.00	3995.00
Asset-IX	1279.68	47.46	74.52 (86.98-12.46)*	0.00	0.00	0.00	121.98	1401.66
<b>Combined Asset-II</b>	<b>5274.68</b>	<b>47.46</b>	<b>74.52</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>121.98</b>	<b>5396.66</b>
<b>Grand Total</b>	<b>218390.47</b>	<b>2332.75</b>	<b>2604.39</b>	<b>1276.68</b>	<b>189.38</b>	<b>720.23</b>	<b>7123.43</b>	<b>225513.90</b>

\*restricting to apportioned approved cost

### **Debt: Equity**

21. Regulation 12 of the 2009 Tariff Regulations provides as under:-

“12. Debt-Equity Ratio. (1) For a project declared under commercial operation on or after 1.4.2009, 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 where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:



(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

22. The debt:equity ratio admitted by the Commission vide order dated 27.4.2011 in Petition No. 270/2010 as on 31.3.2009 has been considered as on 1.4.2009 for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations. In respect of the additional capital expenditure, debt: equity ratio of 70:30 has been considered in line with the 2009 Tariff Regulations.

23. The debt: equity ratio of 70:30 for additional capital expenditure as claimed by the petitioner is in accordance with the Regulation 12 (3) of the 2009 Tariff Regulations and hence, same has been considered towards financing of the additional capital expenditure.

24. The details of the debt:equity considered for the purpose of tariff for 2009-14 tariff period is as follows:-

(₹ in lakh)

Asset	Capital cost as on 31.3.2009		Additional capital expenditure during 2009-14		Total Cost as on 31.3.2014	
	Debt	Equity	Debt	Equity	Debt	Equity
Asset-I	451.59	184.89	0	0	451.59	184.89
%	70.95	29.05	0	0	70.95	29.05
Asset-II	36788.12	15767.42	620.739	266.031	37408.86	16033.45
%	70.00	30.00	70.00	30.00	70.00	30.00
Asset-III	1638.50	702.30	51.772	22.188	1690.27	724.49
%	70.00	30.00	70.00	30.00	70.00	30.00
Asset-IV	20163.95	8641.36	355.334	152.286	20519.28	8793.65

Asset	Capital cost as on 31.3.2009		Additional capital expenditure during 2009-14		Total Cost as on 31.3.2014	
	Debt	Equity	Debt	Equity	Debt	Equity
%	70.00	30.00	70.00	30.00	70.00	30.00
Asset-V	6674.97	2860.71	138.747	59.463	6813.72	2920.17
%	70.00	30.00	70.00	30.00	70.00	30.00
Asset-VI	51524.63	22081.77	2503.242	1072.818	54027.87	23154.59
%	70.00	30.00	70.00	30.00	70.00	30.00
Asset-VII	31946.48	13689.11	1231.181	527.649	33177.66	14216.76
%	70.00	30.00	70.00	30.00	70.00	30.00
<b>Sub-total (Combined Assets Part-I)</b>	<b>149188.24</b>	<b>63927.56</b>	<b>4901.02</b>	<b>2100.44</b>	<b>154089.23</b>	<b>66028.01</b>
%	<b>70.00</b>	<b>30.00</b>	<b>70.00</b>	<b>30.00</b>	<b>70.00</b>	<b>30.00</b>
Asset-VIII	2798.78	1196.22	00.00	00.00	2798.78	1196.22
%	70.06	29.94	70.00	30.00	70.06	29.94
Asset-IX	895.78	383.90	85.39	36.59	981.16	420.50
%	70.00	30.00	70.00	30.00	70.00	30.00
<b>Sub-total (Combined Assets Part-II)</b>	<b>3694.56</b>	<b>1580.12</b>	<b>85.39</b>	<b>36.59</b>	<b>3779.94</b>	<b>1616.72</b>
%	<b>70.04</b>	<b>29.96</b>	<b>70.00</b>	<b>30.00</b>	<b>70.04</b>	<b>29.96</b>

### Return on Equity (“ROE”)

25. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff Regulations provide that

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as

per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

26. The variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act of the relevant year for the purpose of grossing up of return on equity (ROE) has been furnished as follows:-

Year	MAT Rate claimed in the current petition (%)	Grossed up ROE (Base Rate/(1-t)) claimed in the current petition (%)
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

27. The ROE as trued up and allowed is as follows:-

(i) Combined Assets Part-I

(₹ in lakh)

Return on Equity	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 27.4.2011	11262.24	11462.51	11575.71	11575.71	11575.71
Claimed by the petitioner	12001.84	12581.26	12704.25	12746.86	12926.89
Allowed after truing up in this order	12001.58	12581.47	12704.22	12746.83	12927.20

(ii) Combined Assets Part-II

(₹ in lakh)

Return on Equity	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 27.4.2011	314.14	327.57	329.97	329.97	329.97
Claimed by the petitioner	335.58	362.79	365.85	365.85	370.25
Allowed after truing up in this order	246.29	258.86	261.27	261.27	264.42

The difference in the approved ROE and that allowed after truing up is on account of actual grossed up ROE based on actual MAT rate and increase due to actual additional capital expenditure.

### **Interest on Loan (“IoL”)**

28. Regulation 16 of the 2009 Tariff Regulations provide the methodology for working out weighted average rate of IoL. The Commission in its earlier order dated 8.6.2011 in Petition No. 238/2010 has dealt with similar issue and held that:-

“...in case of floating rate of interest, any change in the rates of interest during the tariff period will be considered at the time of true up”.

29. The petitioner has submitted the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, the IoL has been calculated based on actual interest rate submitted by the petitioner, in accordance with the Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are placed in Annexure-1. The IoL worked out is as follows:-

#### (i) Combined Assets Part-I

(₹ in lakh)

<b>Interest on Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	9536.90	8969.60	8248.27	7400.16	6556.01
Claimed by the petitioner	8980.06	8152.41	7492.71	6831.01	5980.23
Allowed after truing up in this order	8979.14	8152.47	7492.75	6830.96	5980.24

#### (ii) Combined Assets Part-II

(₹ in lakh)

<b>Interest on Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	312.53	301.96	277.95	250.68	223.24
Claimed by the petitioner	304.69	291.02	268.01	242.79	214.85
Allowed after truing up in this order	288.50	267.45	247.60	226.03	201.93

The difference in the approved IoL and that allowed after truing up is on account of change in the weighted average rate of interest which is computed based on actual loan portfolio and rate of interest.

### **Depreciation**

30. The depreciation has been worked out as per the methodology provided in the Regulation 17 of the 2009 Tariff Regulations. The depreciation allowed is as follows:-

(i) Combined Assets Part-I

(₹ in lakh)

<b>Depreciation</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	11295.63	11492.59	11604.53	11604.53	11604.53
Claimed by the petitioner	11268.54	11392.59	11490.17	11526.45	11550.23
Allowed after truing up in this order	11268.54	11392.59	11490.17	11526.46	11550.23

(ii) Combined Assets Part-II

(₹ in lakh)

<b>Depreciation</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	314.85	328.15	330.57	330.57	330.57
Claimed by the petitioner	314.86	328.20	330.66	330.66	330.66
Allowed after truing up in this order	278.30	281.52	283.49	283.49	283.49

The difference in the approved depreciation and that allowed after truing up is on account of change in gross block during the 2009-14 tariff period.



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

31. Clause (g) of Regulation 19 of the 2009 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The normative O&M Expenses are not required to be trued up. Accordingly, the total allowable O&M expenses for the instant assets have been worked out based on norms of O&M Expenses and the details are as follows:-

### (i) Combined Assets Part-I

(₹ in lakh)

<b>O&amp;M Expenses</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	2292.85	2424.40	2562.80	2709.78	2864.21
Claimed by the petitioner	2292.85	2424.40	2562.80	2709.78	2864.21
Allowed after truing up in this order	2292.85	2424.40	2562.80	2709.78	2864.21

### (ii) Combined Assets Part-II

(₹ in lakh)

<b>O&amp;M Expenses</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	487.32	515.22	544.71	575.82	608.76
Claimed by the petitioner	487.32	515.22	544.71	575.82	608.76
Allowed after truing up in this order	487.32	515.22	544.71	575.82	608.76

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

32. The IWC has been worked out as per the methodology provided in the Regulation 18 of the 2009 Tariff Regulations and allowed as under:-

### (i) Combined Assets Part-I

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	783.62	786.65	783.23	772.91	763.04
Claimed by the petitioner	786.86	790.85	788.62	783.83	778.07



<b>Interest on Working Capital</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Allowed after truing up in this order	786.84	790.86	788.62	783.83	778.08

(ii) Combined Assets Part-II

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 27.4.2011	44.00	45.73	46.81	47.80	48.87
Claimed by the petitioner	44.28	46.24	47.35	48.38	49.54
Allowed after truing up in this order	41.32	42.61	43.76	44.87	46.08

The difference in the approved IWC and that allowed after truing up is on account of change in the receivables during the 2009-14 tariff period.

**APPROVED ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD**

33. The detailed computation of the various components of the trued up annual fixed charges for the instant transmission assets for the tariff period 2009-14 is summarised below:-

(i) Combined Assets Part-I

(₹ in lakh)

<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Depreciation</b>					
Opening Gross Block	213115.81	215401.09	217930.96	219207.64	219397.01
Additional Capitalisation	2285.28	2529.87	1276.68	189.37	720.23
Closing Gross Block	215401.09	217930.96	219207.64	219397.01	220117.24
Average Gross Block	214258.45	216666.03	218569.30	219302.33	219757.13
Rate of Depreciation	5.26	5.26	5.26	5.26	5.26
Depreciable Value	192645.29	195840.48	197656.78	197712.27	197632.30
Balance Useful life of the asset	33	32	31	30	29
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	186134.50	177032.77	167353.13	156522.68	145405.54



<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation during the year	11268.54	11392.59	11490.17	11526.46	11550.23
<b>Interest on Loan</b>					
Gross Normative Loan	149188.23	150787.93	152558.84	153452.51	153585.07
Cumulative Repayment upto Previous Year	9168.98	20437.52	31830.12	43320.29	54846.74
Net Loan-Opening	140019.25	130350.40	120728.72	110132.22	98738.33
Additions	1599.70	1770.91	893.68	132.56	504.16
Repayment during the year	11268.54	11392.59	11490.17	11526.46	11550.23
Net Loan-Closing	130350.40	120728.72	110132.22	98738.33	87692.25
Average Loan	135184.83	125539.56	115430.47	104435.27	93215.29
Weighted Average Rate of Interest on Loan (%)	6.6421	6.4939	6.4911	6.5409	6.4155
Interest on Loan	8979.14	8152.47	7492.75	6830.96	5980.24
<b>Return on Equity</b>					
Opening Equity	63927.58	64613.16	65372.13	65755.13	65811.94
Additions	685.58	758.96	383.00	56.81	216.07
Closing Equity	64613.16	65372.13	65755.13	65811.94	66028.01
Average Equity	64270.37	64992.64	65563.63	65783.53	65919.97
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity	18.674	19.358	19.377	19.377	19.610
Return on Equity	12001.58	12581.47	12704.22	12746.83	12927.20
<b>Interest on Working Capital</b>					
O & M expenses	191.07	202.03	213.57	225.82	238.68
Maintenance Spares	343.93	363.66	384.42	406.47	429.63
Receivables	5888.16	5890.30	5839.76	5766.31	5683.33
Total	6423.16	6455.99	6437.75	6398.59	6351.64
Rate of Interest	12.25	12.25	12.25	12.25	12.25
Interest on Working Capital	786.84	790.86	788.62	783.83	778.08
<b>Annual Transmission Charges</b>					
Depreciation	11268.54	11392.59	11490.17	11526.46	11550.23
Interest on Loan	8979.14	8152.47	7492.75	6830.96	5980.24
Return on Equity	12001.58	12581.47	12704.22	12746.83	12927.20
Interest on Working Capital	786.84	790.86	788.62	783.83	778.08
O & M Expenses	2292.85	2424.40	2562.80	2709.78	2864.21
<b>Total</b>	<b>35328.95</b>	<b>35341.79</b>	<b>35038.58</b>	<b>34597.86</b>	<b>34099.96</b>

## (ii) Combined Assets Part-II

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Depreciation</b>					
Opening Gross Block	5274.68	5322.14	5396.66	5396.66	5396.66
Additional Capitalisation	47.46	74.52	0.00	0.00	0.00
Closing Gross Block	5322.14	5396.66	5396.66	5396.66	5396.66
Average Gross Block	5298.41	5359.40	5396.66	5396.66	5396.66
Rate of Depreciation	5.25	5.25	5.25	5.25	5.25
Depreciable Value	4764.92	4841.16	4886.88	4853.34	4853.34
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	4764.92	4541.51	4293.53	4010.04	3726.55
Depreciation during the year	278.30	281.52	283.49	283.49	283.49
<b>Interest on Loan</b>					
Gross Normative Loan	3962.90	3996.12	4048.28	4048.28	4048.28
Cumulative Repayment upto Previous Year	206.35	484.65	766.17	1049.65	1333.14
Net Loan-Opening	3756.55	3511.47	3282.12	2998.63	2715.14
Additions	33.22	52.16	0.00	0.00	0.00
Repayment during the year	278.30	281.52	283.49	283.49	283.49
Net Loan-Closing	3511.47	3282.12	2998.63	2715.14	2431.66
Average Loan	3634.01	3396.79	3140.37	2856.89	2573.40
Weighted Average Rate of Interest on Loan (%)	7.9388	7.8736	7.8843	7.9118	7.8467
Interest on Loan	288.50	267.45	247.60	226.03	201.93
<b>Return on Equity</b>					
Opening Equity	1311.78	1326.02	1348.38	1348.38	1348.38
Additions	14.24	22.36	0.00	0.00	0.00
Closing Equity	1326.02	1348.38	1348.38	1348.38	1348.38
Average Equity	1318.90	1337.20	1348.38	1348.38	1348.38
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity	18.674	19.358	19.377	19.377	19.610
Return on Equity	246.29	258.86	261.27	261.27	264.42
<b>Interest on Working Capital</b>					
O & M expenses	40.61	42.94	45.39	47.99	50.73
Maintenance Spares	73.10	77.28	81.71	86.37	91.31
Receivables	223.62	227.61	230.14	231.91	234.11
Total	337.33	347.83	357.24	366.27	376.16
Rate of Interest	12.25	12.25	12.25	12.25	12.25
Interest on Working Capital	41.32	42.61	43.76	44.87	46.08



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Annual Transmission Charges</b>					
Depreciation	278.30	281.52	283.49	283.49	283.49
Interest on Loan	288.50	267.45	247.60	226.03	201.93
Return on Equity	246.29	258.86	261.27	261.27	264.42
Interest on Working Capital	41.32	42.61	43.76	44.87	46.08
O & M Expenses	487.32	515.22	544.71	575.82	608.76
<b>Total</b>	<b>1341.72</b>	<b>1365.66</b>	<b>1380.83</b>	<b>1391.48</b>	<b>1404.67</b>

### **DETERMINATION OF ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD**

34. The petitioner has claimed the tariff charges for 2014-19 tariff period as under:-

(i) Combined Assets Part-I

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	11569.17	11569.17	11569.17	11569.17	11569.17
Interest on Loan	5212.69	4461.36	3726.33	3008.68	2309.60
Return on Equity	12948.08	12948.08	12948.08	12948.08	12948.08
Interest on Working Capital	828.96	816.50	804.50	793.14	782.33
O & M Expenses	2618.16	2705.74	2794.81	2888.10	2983.78
<b>Total</b>	<b>33177.06</b>	<b>32500.85</b>	<b>31842.89</b>	<b>31207.17</b>	<b>30592.96</b>

(ii) Combined Assets Part-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	330.66	330.66	330.66	330.66	330.66
Interest on Loan	188.32	162.36	136.71	111.38	86.36
Return on Equity	370.25	370.25	370.25	370.25	370.25
Interest on Working Capital	51.45	51.88	52.35	52.86	53.42
O & M Expenses	560.79	579.39	598.65	618.48	639.03
<b>Total</b>	<b>1501.47</b>	<b>1494.54</b>	<b>1488.62</b>	<b>1483.63</b>	<b>1479.72</b>

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

(i) Combined Assets Part-I

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	218.18	225.48	232.90	240.68	248.65
Maintenance Spares	392.72	405.86	419.22	433.22	447.57
Receivables	5529.51	5416.81	5307.15	5201.20	5098.83
<b>Total</b>	<b>6140.41</b>	<b>6048.15</b>	<b>5959.27</b>	<b>5875.10</b>	<b>5795.05</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	828.96	816.50	804.50	793.14	782.33

(ii) Combined Assets Part-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	46.73	48.28	49.89	51.54	53.25
Maintenance Spares	84.12	86.91	89.80	92.77	95.85
Receivables	250.25	249.09	248.10	247.27	246.62
<b>Total</b>	<b>381.10</b>	<b>384.28</b>	<b>387.79</b>	<b>391.58</b>	<b>395.72</b>
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	51.45	51.88	52.35	52.86	53.42

**Capital Cost**

36. Clause (3) and (6) of Regulation 9 of 2014 Tariff Regulation provide as follows:-

“(3) The Capital cost of an existing project shall include the following:

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;
- (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
- (c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

“(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;”

37. The capital cost of ₹220117.24 lakh for Combined Assets Part-I and ₹5396.66 lakh for Combined Assets Part-II worked out by the Commission as on 31.3.2014 has been

considered as opening capital cost as on 1.4.2014 for determination of tariff in accordance with Regulation 9 of the 2014 Tariff Regulations.

### **Additional Capital Expenditure**

38. The petitioner has not claimed any additional capital expenditure for 2014-19 tariff period.

### **Debt: Equity**

39. Clause (1) and (3) of Regulation 19 of the 2014 Tariff Regulations provide 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:”

“(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

40. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period are as follows:-

#### (i) Combined Assets Part-I

(₹ in lakh)

Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-19	(%)	Total Cost as on 31.3.2019	(%)
Debt	154089.23	70.00	00.00	00.00	154089.23	70.00
Equity	66028.01	30.00	00.00	00.00	66028.01	30.00



Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-19	(%)	Total Cost as on 31.3.2019	(%)
<b>Total</b>	<b>220117.24</b>	<b>100.00</b>	<b>00.00</b>	<b>00.00</b>	<b>220117.24</b>	<b>100.00</b>

(ii) Combined Assets Part-II

(₹ in lakh)

Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-19	(%)	Total Cost as on 31.3.2019	(%)
Debt	3779.94	70.04	00.00	00.00	3779.94	70.04
Equity	1616.72	29.96	00.00	00.00	1616.72	29.96
<b>Total</b>	<b>5396.66</b>	<b>100.00</b>	<b>00.00</b>	<b>00.00</b>	<b>5396.66</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

41. Clause (1) and (2) of Regulations 24 and Clause (2) of Regulation 25 of the 2014

Tariff Regulations specify as under:-

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system”

“25. Tax on Return on Equity:

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

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

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

42. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during the 2013-14 has been considered for the purpose of ROE, which shall be trued up with actual tax rate in



accordance with Clause (3) of Regulation 25 of the 2014 Tariff Regulations. The ROE has been worked out and allowed as follows:-

(i) Combined Assets Part-I

(₹ in lakh)

Return on Equity	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	66028.01	66028.01	66028.01	66028.01	66028.01
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	66028.01	66028.01	66028.01	66028.01	66028.01
Average Equity	66028.01	66028.01	66028.01	66028.01	66028.01
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	12948.39	12948.39	12948.39	12948.39	12948.39

(ii) Combined Assets Part-II

(₹ in lakh)

Return on Equity	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1348.38	1348.38	1348.38	1348.38	1348.38
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	1348.38	1348.38	1348.38	1348.38	1348.38
Average Equity	1348.38	1348.38	1348.38	1348.38	1348.38
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	264.42	264.42	264.42	264.42	264.42

**Interest on Loan (“IoL”)**

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

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

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

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

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

44. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2014. 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. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up or next revision of tariff. By considering above, the IoL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest for 2014-19 tariff period are placed in Annexure 2. IoL has been worked out and allowed as follows:-

(i) Combined Assets Part-I

(₹ in lakh)

<b>Interest on Loan</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	154089.23	154089.23	154089.23	154089.23	154089.23
Cumulative Repayment upto Previous Year	66396.98	77966.16	89535.34	101104.52	112673.70
Net Loan-Opening	87692.25	76123.07	64553.89	52984.71	41415.53
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	11569.18	11569.18	11569.18	11569.18	11569.18
Net Loan-Closing	76123.07	64553.89	52984.71	41415.53	29846.34
Average Loan	81907.66	70338.48	58769.30	47200.12	35630.94
Weighted Average Rate of Interest on Loan (%)	6.3641	6.3427	6.3406	6.3743	6.4820
Interest on Loan	5212.65	4461.37	3726.34	3008.66	2309.61

(ii) Combined Assets Part-II



(₹ in lakh)

<b>Interest on Loan</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	4048.28	4048.28	4048.28	4048.28	4048.28
Cumulative Repayment upto Previous Year	1616.62	1900.11	2183.60	2467.08	2750.57
Net Loan-Opening	2431.66	2148.17	1864.69	1581.20	1297.71
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	283.49	283.49	283.49	283.49	283.49
Net Loan-Closing	2148.17	1864.69	1581.20	1297.71	1014.23
Average Loan	2289.91	2006.43	1722.94	1439.46	1155.97
Weighted Average Rate of Interest on Loan (%)	7.8227	7.8182	7.8298	7.8693	7.9611
Interest on Loan	179.13	156.87	134.90	113.27	92.03

### **Depreciation**

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

"27. Depreciation:

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

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

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

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

46. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2014 and accumulated depreciation up to 31.3.2014. The transmissions assets will be completing 12 years beyond 2014-19 tariff period; hence



depreciation up to 2014-19 tariff period has been calculated annually based on Straight Line Method and at rates specified in Appendix-II of the 2014 Tariff Regulations. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(i) Combined Assets Part-I

(₹ in lakh)

<b>Depreciation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	220117.24	220117.24	220117.24	220117.24	220117.24
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	220117.24	220117.24	220117.24	220117.24	220117.24
Average Gross Block	220117.24	220117.24	220117.24	220117.24	220117.24
Rate of Depreciation	5.26	5.26	5.26	5.26	5.26
Depreciable Value	198195.29	197871.18	197871.18	197871.18	197871.18
Balance Useful life of the asset	28	27	26	25	24
Elapsed Life	5	6	7	8	9
Remaining Depreciable Value	134179.41	122610.23	111041.05	99471.87	87902.68
Depreciation	11569.18	11569.18	11569.18	11569.18	11569.18
Cumulative depreciation	75307.97	86877.15	98446.33	110015.51	121584.70

(ii) Combined Assets Part-II

(₹ in lakh)

<b>Depreciation</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Gross Block	5396.66	5396.66	5396.66	5396.66	5396.66
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	5396.66	5396.66	5396.66	5396.66	5396.66
Average Gross Block	5396.66	5396.66	5396.66	5396.66	5396.66
Rate of Depreciation	5.25%	5.25%	5.25%	5.25%	5.25%
Depreciable Value	4853.34	4853.34	4853.34	4853.34	4853.34
Balance Useful life of the asset	20	19	18	17	16
Elapsed Life	5	6	7	8	9
Remaining Depreciable Value	3443.07	3159.58	2876.10	2592.61	2309.12
Depreciation	283.49	283.49	283.49	283.49	283.49
Cumulative depreciation	1693.76	1977.25	2260.73	2544.22	2827.70

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

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

### (i) Combined Assets Part-I

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>750 kV Bays:</b>					
No. of Bays	5	5	5	5	5
Norms (₹ lakh/Bay)	84.42	87.22	90.12	93.11	96.2
<b>400 kV Bays:</b>					
No. of Bays	17	17	17	17	17
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>220 kV Bays:</b>					
No. of Bays	3	3	3	3	3
Norms (₹ lakh/Bay)	42.21	43.61	45.06	46.55	48.1
<b>Line: S/C (Bundle Conductor- 4 sub-c):</b>					
Line Length (km)	703.274	703.274	703.274	703.274	703.274
Norms (₹ lakh/km)	0.606	0.627	0.647	0.669	0.691
<b>Line :D/C Bundled( 4 or more sub- c):</b>					
Line Length (km)	351.729	351.729	351.729	351.729	351.729
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.210
<b>Line: D/C Twin/Triple Conductor:</b>					
Line Length (km)	345.98	345.98	345.98	345.98	345.98
Norms (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>2618.16</b>	<b>2705.74</b>	<b>2794.81</b>	<b>2888.10</b>	<b>2983.78</b>

(ii) Combined Assets Part-II

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV Bays:</b>					
No. of Bays	3	3	3	3	3
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>220 kV Bays:</b>					
No. of Bays	9	9	9	9	9
Norms (₹ lakh/Bay)	42.21	43.61	45.06	46.55	48.1
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>560.79</b>	<b>579.39</b>	<b>598.65</b>	<b>618.48</b>	<b>639.03</b>

48. The petitioner has further 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 prayed that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. We would like to clarify that 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 asset as per prevailing norms.

**Interest on Working Capital (IWC)**

49. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies as follows:

**“28. Interest on Working Capital**

- (c) (i) Receivables equivalent to two months of fixed cost;  
(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and  
(iii) Operation and maintenance expenses for one month”

“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

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

51. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The components of the working capital and interest thereon have been worked as follows:-

(i) Combined Assets Part-I

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	218.18	225.48	232.90	240.67	248.65
Maintenance Spares	392.72	405.86	419.22	433.21	447.57
Receivables	5529.56	5416.87	5307.21	5201.25	5098.89
Total	6140.46	6048.21	5959.33	5875.14	5795.10
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	828.96	816.51	804.51	793.14	782.34

(ii) Combined Assets Part-II

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	46.73	48.28	49.89	51.54	53.25
Maintenance Spares	84.12	86.91	89.80	92.77	95.85
Receivables	222.59	222.07	221.71	221.51	221.50
Total	353.44	357.26	361.39	365.82	370.61
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	47.71	48.23	48.79	49.39	50.03

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

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

### (i) Combined Assets Part-I

(₹ in lakh)

<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	220117.24	220117.24	220117.24	220117.24	220117.24
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	220117.24	220117.24	220117.24	220117.24	220117.24
Average Gross Block	220117.24	220117.24	220117.24	220117.24	220117.24
Rate of Depreciation	5.26	5.26	5.26	5.26	5.26
Depreciable Value	198195.29	197871.18	197871.18	197871.18	197871.18
Balance Useful life of the asset	28	27	26	25	24
Elapsed Life	5	6	7	8	9
Remaining Depreciable Value	134179.41	122610.23	111041.05	99471.87	87902.68
Depreciation	11569.18	11569.18	11569.18	11569.18	11569.18
Cumulative depreciation (incl. of AAD)	75307.97	86877.15	98446.33	110015.51	121584.70
<b>Interest on Loan</b>					
Gross Normative Loan	154089.23	154089.23	154089.23	154089.23	154089.23
Cumulative Repayment upto Previous Year	66396.98	77966.16	89535.34	101104.52	112673.70
Net Loan-Opening	87692.25	76123.07	64553.89	52984.71	41415.53
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	11569.18	11569.18	11569.18	11569.18	11569.18
Net Loan-Closing	76123.07	64553.89	52984.71	41415.53	29846.34
Average Loan	81907.66	70338.48	58769.30	47200.12	35630.94
Weighted Average Rate of Interest on Loan	6.3641	6.3427	6.3406	6.3743	6.4820
Interest	5212.65	4461.37	3726.34	3008.66	2309.61
<b>Return on Equity</b>					
Opening Equity	66028.01	66028.01	66028.01	66028.01	66028.01
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	66028.01	66028.01	66028.01	66028.01	66028.01
Average Equity	66028.01	66028.01	66028.01	66028.01	66028.01
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity	19.610	19.610	19.610	19.610	19.610





Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	12948.39	12948.39	12948.39	12948.39	12948.39
<b>Interest on Working Capital</b>					
O & M expenses	218.18	225.48	232.90	240.67	248.65
Maintenance Spares	392.72	405.86	419.22	433.21	447.57
Receivables	5529.56	5416.87	5307.21	5201.25	5098.89
Total	6140.46	6048.21	5959.33	5875.14	5795.10
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	828.96	816.51	804.51	793.14	782.34
<b>Annual Transmission Charges</b>					
Depreciation	11569.18	11569.18	11569.18	11569.18	11569.18
Interest on Loan	5212.65	4461.37	3726.34	3008.66	2309.61
Return on Equity	12948.39	12948.39	12948.39	12948.39	12948.39
Interest on Working Capital	828.96	816.51	804.51	793.14	782.34
O & M Expenses	2618.16	2705.74	2794.81	2888.10	2983.78
<b>Total</b>	<b>33177.34</b>	<b>32501.19</b>	<b>31843.23</b>	<b>31207.48</b>	<b>30593.30</b>

(ii) Combined Assets Part-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	5396.66	5396.66	5396.66	5396.66	5396.66
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	5396.66	5396.66	5396.66	5396.66	5396.66
Average Gross Block	5396.66	5396.66	5396.66	5396.66	5396.66
Rate of Depreciation	5.25	5.25	5.25	5.25	5.25
Depreciable Value	4853.34	4853.34	4853.34	4853.34	4853.34
Balance Useful life of the asset	20	19	18	17	16
Elapsed Life	5	6	7	8	9
Remaining Depreciable Value	3443.07	3159.58	2876.10	2592.61	2309.12
Depreciation	283.49	283.49	283.49	283.49	283.49
Cumulative depreciation (incl. of AAD)	1693.76	1977.25	2260.73	2544.22	2827.70
<b>Interest on Loan</b>					
Gross Normative Loan	4048.28	4048.28	4048.28	4048.28	4048.28
Cumulative Repayment upto Previous Year	1616.62	1900.11	2183.60	2467.08	2750.57
Net Loan-Opening	2431.66	2148.17	1864.69	1581.20	1297.71



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	283.49	283.49	283.49	283.49	283.49
Net Loan-Closing	2148.17	1864.69	1581.20	1297.71	1014.23
Average Loan	2289.91	2006.43	1722.94	1439.46	1155.97
Weighted Average Rate of Interest on Loan	7.8227	7.8182	7.8298	7.8693	7.9611
Interest	179.13	156.87	134.90	113.27	92.03
<b>Return on Equity</b>					
Opening Equity	1348.38	1348.38	1348.38	1348.38	1348.38
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	1348.38	1348.38	1348.38	1348.38	1348.38
Average Equity	1348.38	1348.38	1348.38	1348.38	1348.38
Return on Equity (Base Rate )	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity	19.610	19.610	19.610	19.610	19.610
Return on Equity	264.42	264.42	264.42	264.42	264.42
<b>Interest on Working Capital</b>					
O & M expenses	46.73	48.28	49.89	51.54	53.25
Maintenance Spares	84.12	86.91	89.80	92.77	95.85
Receivables	222.59	222.07	221.71	221.51	221.50
Total	353.44	357.26	361.39	365.82	370.61
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on working capital	47.71	48.23	48.79	49.39	50.03
<b>Annual Transmission Charges</b>					
Depreciation	283.49	283.49	283.49	283.49	283.49
Interest on Loan	179.13	156.87	134.90	113.27	92.03
Return on Equity	264.42	264.42	264.42	264.42	264.42
Interest on Working Capital	47.71	48.23	48.79	49.39	50.03
O & M Expenses	560.79	579.39	598.65	618.48	639.03
<b>Total</b>	<b>1335.55</b>	<b>1332.40</b>	<b>1330.25</b>	<b>1329.05</b>	<b>1329.00</b>

### **Deferred Tax Liability**

53. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same gets materialized directly from the beneficiaries or long term transmission customers /DICs.

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

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

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

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

### **Service Tax**

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

### **Foreign Exchange Rate Variation**

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

### **Sharing of Transmission Charges**

58. 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.

59. This order disposes of Petition No.552/TT/2014.

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

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

**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2009-14)****(i) Combined Assets Part-I**

(₹ in lakh)

Particulars	Rate of interest					Loan deployed as on 1.4.2009	Additions during the tariff period	Total
	2009-10	2010-11	2011-12	2012-13	2013-14			
BOND XII- DOCO - 01- MAY-2006-	9.70	9.70	9.70	9.70	9.70	31.00	0.00	31.00
BOND - XIII - Option - I- DOCO-	8.63	8.63	8.63	8.63	8.63	200.00	0.00	200.00
BOND XVII- DOCO-	7.39	7.39	7.39	7.39	7.39	12810.00	0.00	12810.00
BOND XVIII- DOCO-	8.15	8.15	8.15	8.15	8.15	5901.00	0.00	5901.00
BOND XIX- DOCO-	9.25	9.25	9.25	9.25	9.25	9593.00	0.00	9593.00
BOND XX- DOCO-	8.93	8.93	8.93	8.93	8.93	5584.00	0.00	5584.00
BOND XXI- DOCO-	8.73	8.73	8.73	8.73	8.73	14666.00	0.00	14666.00
BOND XXII- DOCO-	8.68	8.68	8.68	8.68	8.68	5343.00	0.00	5343.00
BOND XXIII- DOCO-	9.25	9.25	9.25	9.25	9.25	9078.00	0.00	9078.00
BOND XXIV- DOCO-	9.95	9.95	9.95	9.95	9.95	2697.00	0.00	2697.00
BOND XXV- DOCO-	10.10	10.10	10.10	10.10	10.10	16859.00	0.00	16859.00
ADB II LB- DOCO - 01- NOV-2007- 39.68	2.4956	1.9213	1.8846	2.0870	1.8317	30359.56	0.00	30359.56
ADB II LB- DOCO DRAWL ON 01-APR-2008 - 01-APR-2008- 40.19	2.4956	1.9213	1.8846	2.0870	1.8317	14186.72	0.00	14186.72
ADB II LB- DOCO DRAWL ON 01-MAY-2008 - 01-MAY-2008- 40.87	2.4956	1.9213	1.8846	2.0870	1.8317	11988.58	0.00	11988.58
BOND XXVIII- DOCO-	9.33	9.33	9.33	9.33	9.33	6735.19	0.00	6735.19

Particulars	Rate of interest					Loan deployed as on 1.4.2009	Additions during the tariff period	Total
	2009-10	2010-11	2011-12	2012-13	2013-14			
BOND XXX-ADDCAP FOR 2009-2010 Loan2-	8.80	8.80	8.80	8.80	8.80	0.00	1436.00	1436.00
BOND-XXXIV-ADDCAP FOR 2010-2011 loan 3-	0.00	8.84	8.84	8.84	8.84	0.00	1770.90	1770.90
BOND-XXXIV-ADDCAP FOR 2011-2012 Addcap-	0.00	0.00	8.84	8.84	8.84	0.00	468.80	468.80
BOND-XXXV-ADDCAP FOR 2011-2012 loan 5-	0.00	0.00	9.64	9.64	9.64	0.00	91.00	91.00
BOND XXXVIII-ADDCAP FOR 2011-2012 loan 6-	0.00	0.00	9.25	9.25	9.25	0.00	333.88	333.88
BOND XXXVIII-ADDCAP FOR 2012-2013 AddCap-	0.00	0.00	0.00	9.25	9.25	0.00	56.12	56.12
<b>Total</b>						<b>146032.05</b>	<b>4156.70</b>	<b>150188.75</b>

### **WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2009-14 TARIFF PERIOD**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	146032.05	147468.05	149238.95	150132.63	150188.75
Cumulative Repayments of Loans up to Previous Year	5293.88	9452.04	17757.97	27737.51	38575.55
Net Loans Opening	<b>140738.17</b>	<b>138016.01</b>	<b>131480.98</b>	<b>122395.12</b>	<b>111613.20</b>
Add: Drawl(s) during the Year	1436.00	1770.90	893.68	56.12	0.00
Less: Repayments during the year	4158.16	8305.93	9979.54	10838.04	11283.46
Net Closing Loan	<b>138016.01</b>	<b>131480.98</b>	<b>122395.12</b>	<b>111613.20</b>	<b>100329.74</b>
Average Net Loan	139377.09	134748.50	126938.05	117004.16	105971.47
Rate of Interest on Loan (%)*	6.6421%	6.4939%	6.4911%	6.5409%	6.4155%
Interest on Loan	9257.60	8750.49	8239.72	7653.07	6798.61

\*Petitioner, in the tariff computation submitted with the petition, has considered rate of interest on loan up to two decimal points.



**(ii) Combined Assets Part-II**

(₹ in lakh)

Particulars	Rate of interest					Loan deployed as on 1.4.2009	Additions during the tariff period	Total
	2009-10	2010-11	2011-12	2012-13	2013-14			
BOND XVII- DOCO DRAWL ON 22-SEP- 2005 - 22-SEP- 2005-	7.39	7.39	7.39	7.39	7.39	6.00	0.00	6.00
BOND XVIII- DOCO DRAWL ON 09-MAR- 2006 - 09-MAR- 2006-	8.15	8.15	8.15	8.15	8.15	6.00	0.00	6.00
BOND XIX- DOCO DRAWL ON 24-JUL-2006 - 24-JUL-2006-	9.25	9.25	9.25	9.25	9.25	114.00	0.00	114.00
BOND XX- DOCO DRAWL ON 07-SEP- 2006 - 07-SEP- 2006-	8.93	8.93	8.93	8.93	8.93	177.00	0.00	177.00
BOND XXI- DOCO DRAWL ON 11-OCT- 2006 - 11-OCT- 2006-	8.73	8.73	8.73	8.73	8.73	849.00	0.00	849.00
BOND XXII- DOCO DRAWL ON 07-DEC- 2006 - 07-DEC- 2006-	8.68	8.68	8.68	8.68	8.68	291.00	0.00	291.00
BOND XXIII- DOCO DRAWL ON 09-FEB- 2007 - 09-FEB- 2007-	9.25	9.25	9.25	9.25	9.25	521.00	0.00	521.00
BOND XXIV- DOCO DRAWL ON 26-MAR- 2007 - 26-MAR- 2007-	9.95	9.95	9.95	9.95	9.95	6.00	0.00	6.00
BOND XXV- DOCO DRAWL ON 12-JUN- 2007 - 12-JUN- 2007-	10.10	10.10	10.10	10.10	10.10	464.00	0.00	464.00
ADB II LB- DOCO DRAWL ON 01-APR- 2008 - 01-APR- 2008-40.19	2.4956	1.9213	1.8846	2.0870	1.8317	856.05	0.00	856.05



Particulars	Rate of interest					Loan deployed as on 1.4.2009	Additions during the tariff period	Total
	2009-10	2010-11	2011-12	2012-13	2013-14			
BOND XXVIII-ADDCAP FOR 2008-2009 DRAWL ON 15-DEC-2008 - 15-DEC-2008-	9.33	9.33	9.33	9.33	9.33	190.81	0.00	190.81
BOND XXVIII-DOCO DRAWL ON 15-DEC-2008 - 15-DEC-2008-	9.33	9.33	9.33	9.33	9.33	688.00	0.00	688.00
BOND-XXXIV-ADDCAP FOR 2010-2011 loan-1-	0.00	8.84	8.84	8.84	8.84	0.00	65.30	65.30
<b>Total</b>						<b>4168.86</b>	<b>65.30</b>	<b>4234.16</b>

#### WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2009-14 TARIFF PERIOD

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	4168.86	4168.86	4234.16	4234.16	4234.16
Cumulative Repayments of Loans up to Previous Year	79.17	116.10	319.75	566.14	890.26
Net Loans Opening	<b>4089.69</b>	<b>4052.76</b>	<b>3914.41</b>	<b>3668.02</b>	<b>3343.90</b>
Add: Drawl(s) during the Year	0.00	65.30	0.00	0.00	0.00
Less: Repayments during the year	36.93	203.65	246.39	324.12	329.05
Net Closing Loan	<b>4052.76</b>	<b>3914.41</b>	<b>3668.02</b>	<b>3343.90</b>	<b>3014.85</b>
Average Net Loan	4071.23	3983.59	3791.22	3505.96	3179.38
Rate of Interest on Loan (%)*	7.9388%	7.8736%	7.8843%	7.9118%	7.8467%
Interest on Loan	323.20	313.65	298.91	277.38	249.48

\*Petitioner, in the tariff computation submitted with the petition, has considered rate of interest on loan up to two decimal points.



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)****(i) Combined Assets Part-I**

(₹ in lakh)

Particulars	Rate of interest					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
BOND XII- DOCO - 01- MAY-2006-	9.70	9.70	9.70	9.70	9.70	31.00	0.00	31.00
BOND - XIII - Option - I- DOCO-	8.63	8.63	8.63	8.63	8.63	200.00	0.00	200.00
BOND XVII- DOCO-	7.39	7.39	7.39	7.39	7.39	12810.00	0.00	12810.00
BOND XVIII- DOCO-	8.15	8.15	8.15	8.15	8.15	5901.00	0.00	5901.00
BOND XIX- DOCO-	9.25	9.25	9.25	9.25	9.25	9593.00	0.00	9593.00
BOND XX- DOCO-	8.93	8.93	8.93	8.93	8.93	5584.00	0.00	5584.00
BOND XXI- DOCO-	8.73	8.73	8.73	8.73	8.73	14666.00	0.00	14666.00
BOND XXII- DOCO-	8.68	8.68	8.68	8.68	8.68	5343.00	0.00	5343.00
BOND XXIII- DOCO-	9.25	9.25	9.25	9.25	9.25	9078.00	0.00	9078.00
BOND XXIV- DOCO-	9.95	9.95	9.95	9.95	9.95	2697.00	0.00	2697.00
BOND XXV- DOCO-	10.10	10.10	10.10	10.10	10.10	16859.00	0.00	16859.00
ADB II LB- DOCO - 01- NOV-2007- 39.68	1.7741	1.7741	1.7741	1.7741	1.7741	30359.56	0.00	30359.56
ADB II LB- DOCO DRAWL ON 01-APR-2008 - 01-APR-2008- 40.19	1.7741	1.7741	1.7741	1.7741	1.7741	14186.72	0.00	14186.72
ADB II LB- DOCO DRAWL ON 01-MAY-2008 - 01-MAY- 2008-40.87	1.7741	1.7741	1.7741	1.7741	1.7741	11988.58	0.00	11988.58
BOND XXVIII- DOCO-	9.33	9.33	9.33	9.33	9.33	6735.19	0.00	6735.19
BOND XXX- ADDCAP FOR 2009-2010	8.80	8.80	8.80	8.80	8.80	1436.00	0.00	1436.00

Particulars	Rate of interest					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
Loan2-								
BOND-XXXIV-ADDCAP FOR 2010-2011 loan 3-	8.84	8.84	8.84	8.84	8.84	1770.90	0.00	1770.90
BOND-XXXIV-ADDCAP FOR 2011-2012 Addcap-	8.84	8.84	8.84	8.84	8.84	468.80	0.00	468.80
BOND-XXXV-ADDCAP FOR 2011-2012 loan 5-	9.64	9.64	9.64	9.64	9.64	91.00	0.00	91.00
BOND XXXVIII-ADDCAP FOR 2011-2012 loan 6-	9.25	9.25	9.25	9.25	9.25	333.88	0.00	333.88
BOND XXXVIII-ADDCAP FOR 2012-2013 AddCap-	9.25	9.25	9.25	9.25	9.25	56.12	0.00	56.12
<b>Total</b>						<b>150188.75</b>	<b>0.00</b>	<b>150188.75</b>

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	150188.75	150188.75	150188.75	150188.75	150188.75
Cumulative Repayments of Loans up to Previous Year	49859.01	61689.22	73915.66	86576.43	99714.68
Net Loans Opening	<b>100329.74</b>	<b>88499.53</b>	<b>76273.09</b>	<b>63612.32</b>	<b>50474.07</b>
Add: Drawl(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments during the year	11830.21	12226.44	12660.77	13138.25	13653.14
Net Closing Loan	<b>88499.53</b>	<b>76273.09</b>	<b>63612.32</b>	<b>50474.07</b>	<b>36820.93</b>
Average Net Loan	94414.64	82386.31	69942.71	57043.20	43647.50
Rate of Interest on Loan (%)*	6.3641%	6.3427%	6.3406%	6.3743%	6.4820%
Interest on Loan	<b>6008.60</b>	<b>5225.53</b>	<b>4434.80</b>	<b>3636.09</b>	<b>2829.24</b>

\*Petitioner, in the tariff computation submitted with the petition, has considered rate of interest on loan up to two decimal points.

**(ii) Combined Assets Part-II**

(₹ in lakh)

Particulars	Rate of interest					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
BOND XVII- DOCO DRAWL ON 22-SEP- 2005 - 22-SEP- 2005-	7.39	7.39	7.39	7.39	7.39	6.00	0.00	6.00
BOND XVIII- DOCO DRAWL ON 09-MAR- 2006 - 09-MAR- 2006-	8.15	8.15	8.15	8.15	8.15	6.00	0.00	6.00
BOND XIX- DOCO DRAWL ON 24-JUL-2006 - 24-JUL-2006-	9.25	9.25	9.25	9.25	9.25	114.00	0.00	114.00
BOND XX- DOCO DRAWL ON 07-SEP- 2006 - 07-SEP- 2006-	8.93	8.93	8.93	8.93	8.93	177.00	0.00	177.00
BOND XXI- DOCO DRAWL ON 11-OCT- 2006 - 11-OCT- 2006-	8.73	8.73	8.73	8.73	8.73	849.00	0.00	849.00
BOND XXII- DOCO DRAWL ON 07-DEC- 2006 - 07-DEC- 2006-	8.68	8.68	8.68	8.68	8.68	291.00	0.00	291.00
BOND XXIII- DOCO DRAWL ON 09-FEB- 2007 - 09-FEB- 2007-	9.25	9.25	9.25	9.25	9.25	521.00	0.00	521.00
BOND XXIV- DOCO DRAWL ON 26-MAR- 2007 - 26-MAR- 2007-	9.95	9.95	9.95	9.95	9.95	6.00	0.00	6.00
BOND XXV- DOCO DRAWL ON 12-JUN- 2007 - 12-JUN- 2007-	10.10	10.10	10.10	10.10	10.10	464.00	0.00	464.00
ADB II LB- DOCO DRAWL ON 01-APR- 2008 - 01-APR- 2008-40.19	1.7741	1.7741	1.7741	1.7741	1.7741	856.05	0.00	856.05



Particulars	Rate of interest					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
BOND XXVIII-ADDCAP FOR 2008-2009 DRAWL ON 15-DEC-2008 - 15-DEC-2008-	9.33	9.33	9.33	9.33	9.33	190.81	0.00	190.81
BOND XXVIII-DOCO DRAWL ON 15-DEC-2008 - 15-DEC-2008-	9.33	9.33	9.33	9.33	9.33	688.00	0.00	688.00
BOND-XXXIV-ADDCAP FOR 2010-2011 loan-1-	8.84	8.84	8.84	8.84	8.84	65.30	0.00	65.30
<b>Total</b>						<b>4234.16</b>	<b>0.00</b>	<b>4234.16</b>

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	4234.16	4234.16	4234.16	4234.16	4234.16
Cumulative Repayments of Loans up to Previous Year	1219.31	1559.25	1905.08	2257.48	2617.15
Net Loans Opening	<b>3014.85</b>	<b>2674.91</b>	<b>2329.08</b>	<b>1976.68</b>	<b>1617.01</b>
Add: Drawl(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments during the year	339.94	345.83	352.40	359.67	367.72
Net Closing Loan	<b>2674.91</b>	<b>2329.08</b>	<b>1976.68</b>	<b>1617.01</b>	<b>1249.29</b>
Average Net Loan	2844.88	2502.00	2152.88	1796.85	1433.15
Rate of Interest on Loan (%)*	7.8227%	7.8182%	7.8298%	7.8693%	7.9611%
Interest on Loan	222.55	195.61	168.57	141.40	114.09

\*Petitioner, in the tariff computation submitted with the petition, has considered rate of interest on loan up to two decimal points