

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO.39/TT/2016**

**Coram:**

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

**Date of Hearing: 13.06.2016  
Date of Order: 28.06.2016**

**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 for Asset-I 400 kV D/C Raipur-Wardha T/L alongwith FSC at Wardha under WRSS-II Set-A; Asset-2 765 kV S/C Seoni-Wardha T/L WRSS-II, Set A; Asset-3 (five Assets) Asset-I Korba-BALCO (Loc 179/2) 400 kV D/C transmission line-First ckt; Asset-II BALCO (179/2)-Vandana (176/0) 400 kV D/C transmission line-First ckt; Asset-III Korba-Vandana (176/0) 400 kV D/C transmission line-Second ckt; Asset-IV BALCO (179/2)-Birsinghpur 400 kV D/C transmission line-First Ckt; Asset-V Vandana (176/0)-Birsinghpur 400 kV D/C transmission line-Second ckt and WRSS-II, Set D scheme of Western Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the Matter of:**

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

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Trading Company Ltd.  
Shakti Bhawan, Rampur  
Jabalpur - 482 008
  
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,  
Ner 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  
Chhatisgaarh-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 S.S. Raju, PGCIL  
Shri Jasbir Singh, PGCIL  
Shri Mohd. Mohsin, PGCIL  
Shri Pankaj Sharma, PGCIL  
Shri A.M.Pavgi, PGCIL

For Respondents: None

### **ORDER**

This petition has been preferred by Power Grid Corporation of India Limited (hereinafter referred to as "the petitioner") 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 from the date of commercial operation 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 for Asset-I 400 kV D/C Raipur-Wardha T/L alongwith FSC at Wardha under WRSS-II Set-A; Asset-2 765 kV S/C Seoni-Wardha T/L WRSS-II, Set A; Asset-3 (five Assets) Asset-I Korba-BALCO (Loc 179/2) 400 kV D/C transmission line-First ckt; Asset-II BALCO (179/2)-Vandana (176/0) 400 kV D/C transmission line-First ckt; Asset-III Korba-Vandana (176/0) 400 kV D/C transmission line-Second ckt; Asset-IV BALCO (179/2)-Birsinghpur 400 kV D/C transmission line-First Ckt; Asset-V Vandana (176/0)-Birsinghpur 400 kV D/C transmission line-Second ckt and WRSS-II, Set D scheme of 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 Scheme was accorded by Ministry of Power vide letter dated 24.7.2006 at an estimated cost of ₹522123 lakh, including IDC of ₹38042 lakh, based on 4<sup>th</sup> Quarter, 2005 price level, consisting of (i) ₹358140 lakh (including IDC of ₹25062 lakh) for the petitioner’s portion and (ii) ₹163983 lakh (including IDC of ₹12980 lakh) for IPTC’s portion. The petitioner has submitted the RCE accorded by the Board of Directors vide memorandum C/CP/RCE/WR-II dated 22.7.2015 at an estimated cost of ₹360849 lakh including



IDC of ₹15405 lakh. The details of assets covered in the instant petition and the date of commercial operations are given hereunder:-

Name of Assets	SCOD	COD	Time Over-run (months)
<b>Asset-1</b> 400 kV D/C Raipur – Wardha T/L alongwith FSC at Wardha under WRSS-II Set-A	1.8.2010	1.1.2013	29
<b>Asset-2</b> 765 kV S/C Seoni-Wardha T/L WRSS-II, Set A		1.3.2012	19
<b>Asset-3(I)</b> Korba - BALCO (Loc 179/2) 400 kV D/C transmission line – First ckt		1.10.2011	14
<b>Asset-3(II)</b> BALCO (179/2) – Vandana (176/0) 400 kV D/C transmission line – First ckt and Korba - Vandana (176/0) 400 kV D/C transmission line – Second ckt		1.12.2011	16
<b>Asset-3(III)</b> Korba - Vandana (176/0) 400 kV D/C transmission line – Second ckt		1.12.2011	16
<b>Asset-3(IV)</b> Birsinghpur 400 kV D/C transmission line – First Ckt		1.3.2012	19
<b>Asset-3(V)</b> Vandana (176/0) – Birsinghpur 400 kV D/C transmission line – Second ckt		1.4.2012	20

b) The annual transmission charges for 2009-14 tariff period for the transmission assets were determined vide order dated 12.5.2015, 30.4.2015 and 19.5.2014 in Petition No. 53/TT/2013, 78/TT/2012 and 107/TT/2012 respectively based on admitted capital cost given as under:-

(₹ in lakh)

Asset	Capital cost approved as on COD as per order 53/TT/2013	IDC and IEDC disallowed	Excess initial spares disallowed
<b>Asset-1</b>	42893.76	466.13	0.00
	<b>Capital cost approved as on COD as per order 78/TT/2012</b>		
<b>Asset-2</b>	36593.62	0.00	0.00



	Capital cost approved as on COD as per order 107/TT/2012		
<b>Asset-3(I)</b>	1418.67	0.00	0.00
<b>Asset-3(II&amp;III)</b>	1702.92	0.00	0.00
<b>Asset-3(IV)</b>	15852.13	118.06	54.87
<b>Asset-3(V)</b>	5406.32	14.40	0.00

c) As per the investment approval, the COD for the assets was scheduled on 1.8.2010. Accordingly, there was delay of 14 to 29 months in commissioning of Assets.

d) The debt:equity ratio is 70:30 as on COD for all the assets. The estimated additional capital expenditure approved was towards balance and retention payments for determination of tariff for 2009-14 tariff period is as follows:-

(₹ in lakh)

Asset	Apportioned approved cost as per FR	Apportioned approved cost as per RCE	Capital cost as on COD	Allowed additional capital expenditure during 2009-14			Cost as on 31.3.2014
				2011-12	2012-13	2013-14	
<b>Asset-1</b>	42893.76	71683.31	42893.76	0.00	1025.90	580.73	44500.39
<b>Asset-2</b>	36593.62	46869.59	36593.62	0.00	0.00	0.00	36593.62
<b>Asset-3(I)</b>	1418.67	1602.08	1418.67	0.00	0.00	0.00	1418.67
<b>Asset-3(II&amp;III)</b>	1718.70	1895.32	1702.92	9.50	6.28	0.00	1718.70
<b>Asset-3(IV)</b>	18900.30	18309.18	15852.13	65.94	2255.73	15.00	18188.80
<b>Asset-3(V)</b>	6066.43	6157.28	5406.32	0.00	457.85	15.00	5879.17

e) The annual fixed charges were determined vide order dated 12.5.2015, 30.4.2015 and 19.5.2014 in Petition No. 53/TT/2013, 78/TT/2012 and 107/TT/2012 respectively based the above capital cost and estimated additional capital expenditure for the transmission assets during 2009-14 as given below:-



(₹ in lakh)

Particulars	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	566.19	2264.76	161.01	1932.14	1932.14
Interest on Loan	140.38	534.59	88.42	1296.66	1203.93
Return on Equity	562.37	2249.48	159.92	1919.08	1919.08
Interest on Working Capital	40.03	161.94	8.81	110.82	109.42
O & M Expenses	195.80	827.80	13.13	166.76	176.20
<b>Total</b>	<b>1504.77</b>	<b>6038.57</b>	<b>431.30</b>	<b>5425.46</b>	<b>5340.78</b>

(₹ in lakh)

Particulars	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Depreciation	36.57	73.14	73.14	29.47	88.81	88.97
Interest on Loan	31.52	58.88	52.98	23.44	66.35	59.73
Return on Equity	37.20	74.40	74.40	29.85	89.97	90.13
Interest on Working Capital	3.63	7.36	7.42	2.73	8.31	8.38
O & M Expenses	31.90	67.44	71.30	22.47	71.26	75.33
<b>Total</b>	<b>140.82</b>	<b>281.22</b>	<b>279.24</b>	<b>107.96</b>	<b>324.71</b>	<b>322.55</b>

(₹ in lakh)

Particulars	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Depreciation	69.81	897.54	956.00	295.92	307.78
Interest on Loan	40.04	487.79	467.93	137.52	128.85
Return on Equity	69.42	893.94	953.48	295.53	307.93
Interest on Working Capital	4.15	52.79	55.17	25.15	25.99
O & M Expenses	11.94	151.54	160.17	151.54	160.17
<b>Total</b>	<b>195.36</b>	<b>2483.61</b>	<b>2592.75</b>	<b>905.67</b>	<b>930.71</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 actual capital expenditure including additional capital expenditure incurred up to 31.3.2014, 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. In this context, the petitioner has filed the instant petition for revision of tariff for the tariff period 2009-14 in accordance with Regulation 6 of the 2009 Tariff Regulations.

5. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments/objections have been received from the public in response to the notice in newspaper. No reply has been made by the respondents. The petitioner has filed additional information vide affidavit dated 20.6.2016 .

6. 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:-**

7. 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”.

8. 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**

9. The petitioner has submitted that the actual capital expenditure incurred as on COD for all assets, as certified vide Auditor's Certificates dated 2.3.2015. Details of capital cost claimed is as under:-

(₹ in lakh)

<b>Asset</b>	<b>Capital cost as on COD as per Auditor Certificate dated 2.3.2015</b>
<b>Asset-1</b>	66991.35
<b>Asset-2</b>	42797.25
<b>Asset-3 (I)</b>	1543.08
<b>Asset-3 (II&amp;III)</b>	1832.91
<b>Asset-3 (IV)</b>	16729.46
<b>Asset-3 (V)</b>	5590.73

10. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides that:-

“(1) Capital cost for a project shall include:

(a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (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, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.”

11. The admissible capital cost of the transmission asset as on COD for the purpose of computation of tariff for 2009-14 tariff period is worked out in the subsequent paragraphs taking into consideration the IEDC and IDC and initial spares claimed and allowed.





## **IDC and IEDC**

12. In order dated 12.5.2015 in Petition No. 53/TT/2013, IDC and IEDC of ₹466.13 lakh in case of Asset-1 was disallowed and in order dated 19.5.2014 in Petition No. 107/TT/2012, IDC and IEDC of ₹118.06 lakh in case of Asset-3(IV) and ₹14.40 lakh in Asset-3(V) was disallowed on account of time over-run in commissioning of the assets. The petitioner has filed an appeal before Hon'ble Appellate Tribunal for Electricity (APTEL) against the order in Petition No. 107/TT/2012 and 53/TT/2013 regarding disallowance of IDC and IEDC. The petitioner during the hearing on 13.6.2016 has submitted that the appeal is under consideration by APTEL and requested to finalize the order as per the information available. The petitioner, vide affidavit dated 20.6.2016, has submitted the IDC and IEDC discharged from SCOD to COD and COD to till date. We had allowed the IDC and IEDC on pro-rata basis and we have followed the same approach of pro-rata basis for disallowing the IDC and IEDC in respect of Asset-1, 3(IV) and 3(V) given as here under:-

(₹ in lakh)	
Asset	IDC and IEDC disallowed
Asset-1	417.47
Asset-3(IV)	54.25
Asset-3(V)	18.54

## **Initial Spares**

13. The petitioner has claimed the actual initial spares pertaining to sub-station and transmission line as stated in Auditor's Certificates dated 2.3.2015. We have worked out the admissible initial spares by considering capital cost as per Auditor's Certificate in accordance with the 2009 Tariff Regulations. In case of Asset-3(IV), excess initial spares of ₹56.51 lakh have been deducted for the purpose of tariff calculation. In case



of other assets, the initial spares is within the limits specified in the 2009 Tariff Regulations.

14. Regulation 8 of the 2009 Tariff Regulations provide for ceiling norms for capitalization of initial spares in respect of transmission line at 0.75%. Accordingly, the initial spares have been disallowed for Asset-3(IV) as under:-

(₹ in lakh)

Particulars	Logical Formula	Transmission line
Capital cost as on cut-off date	(a)	16854.27
Capital Cost after deducting excess IDC	(b)	16803.35
Initial Spares as per Auditor`s Certificate	(c)	182.11
Proportionate Initial Spares claimed after deducting IDC	(d) = ( c)/(a) *(b)	182.11
Ceiling limit as per Regulation 8 of 2009 regulations	(e)	0.75%
Initial spares worked out	(f)= ((b-d)*e)/(100%-e)	125.60
Excess initial spares	(g)=(d)-(f)	56.51

The cut-off date of the subject assets falls beyond 31.3.2014. However, the petitioner has submitted the additional capital expenditure during 2014-15 and 2015-16. Hence, admissible initial spares have been worked out by considering additional capital expenditure upto cut-off date corresponding to each asset.

15. Accordingly, the capital cost of the instant assets as on COD considered for truing up of tariff of 2009-14 is as follows:-

(₹ in lakh)

Asset	Capital cost on COD	IDC and IEDC deducted	Excess initial spares	Capital cost as on COD considered for tariff determination
<b>Asset-1</b>	66991.35	417.47	0.00	66573.88
<b>Asset-2</b>	42797.25	0.00	0.00	42797.25
<b>Asset-3(I)</b>	1543.08	0.00	0.00	1543.08
<b>Asset-3(II&amp;III)</b>	1832.91	0.00	0.00	1832.91
<b>Asset-3(IV)</b>	16729.46	54.25	56.51	16618.70



Asset	Capital cost on COD	IDC and IEDC deducted	Excess initial spares	Capital cost as on COD considered for tariff determination
<b>Asset-3(V)</b>	5590.73	18.54	0.00	5572.19

### **Additional Capital Expenditure**

16. 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”

17. The petitioner has submitted actual additional capital expenditure during 2009-14 towards balance and retention payments for the works completed before the cut-off date. The petitioner has claimed the admissibility of additional capital expenditure before the cut-off date under Regulation 9(1)(i) of 2009 Tariff Regulations.

18. The additional capital expenditure claimed by the petitioner is towards actual balance and retention payments and the same has been certified by the Auditor vide certificates dated 2.3.2015. Further, the total capital expenditure during 2009-14 is within the limits of the total approved capital expenditure and the total cost as on 31.3.2014 is within the approved cost of the project as per the RCE submitted by the petitioner. Thus, the same is allowed for the purpose of revision of tariff in accordance with Regulation 9(1)(i) and Regulation 6 of the 2009 Tariff Regulations.

19. The capital expenditure as on COD and additional capital expenditure from COD to 31.3.2014 allowed is as depicted below:-

(₹ in lakh)

Name of Asset	Apportioned approved cost as per RCE		Capital cost as on COD	Additional capital expenditure			Capital cost as on 31.3.2014
				2011-12	2012-13	2013-14	
	71683.31	Approved in Order dated 12.5.2015	42893.76	0.00	1025.90	580.73	44500.39



<b>Asset-1</b>		Claimed by the petitioner	66991.35	0.00	2647.73	1165.60	70804.68
		Allowed in this Order	66573.88*	0.00	2647.73	1165.60	70387.21
<b>Asset-2</b>	46869.59	Approved in Order dated 30.4.2015	36593.62	0.00	0.00	0.00	36593.62
		Claimed by the petitioner	42797.25	1086.01	2533.90	259.43	46676.59
		Allowed in this Order	42797.25	1086.01	2533.90	259.43	46676.59
<b>Asset-3(I)</b>	1602.08	Approved in Order dated 19.5.2014	1418.67	0.00	0.00	0.00	1418.67
		Claimed by the petitioner	1543.08	9.66	49.34	0.00	1602.08
		Allowed in this Order	1543.08	9.66	49.34	0.00	1602.08
<b>Asset-3(II&amp;III)</b>	1895.32	Approved in Order dated 19.5.2014	1702.92	9.50	6.28	0.00	1718.70
		Claimed by the petitioner	1832.91	9.50	0.00	52.80	1895.21
		Allowed in this Order	1832.91	9.50	0.00	52.80	1895.21
<b>Asset-3(IV)</b>	18309.18	Approved in Order dated 19.5.2014	15852.13	65.94	2255.73	15.00	18188.80
		Claimed by the petitioner	16729.46	65.94	568.39	154.62	17518.41
		Allowed in this Order	16618.70*	65.94	568.39	154.62	17407.65
<b>Asset-3(V)</b>	6157.28	Approved in Order dated 19.5.2014	5406.32	0.00	457.85	15.00	5879.17
		Claimed by the petitioner	5590.73	0.00	72.57	33.58	5696.88
		Allowed in this Order	5572.19*	0.00	72.57	33.58	5678.34

\*Excess initial spares, IDC and IEDC adjusted.

### **Debt: Equity**

20. 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.”

21. The debt:equity ratio admitted vide order dated 12.5.2015, 30.4.2015 and 19.5.2014 in Petition No. 53/TT/2013, 78/TT/2012 and 107/TT/2012 respectively as on COD was 70:30 for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations. The petitioner was directed to confirm that actual equity corresponding to additional capital expenditure is not less than 30%. In response, the petitioner vide affidavit dated 20.6.2017, has submitted that the actual equity infusion during 2009-14 period .

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

(₹ in lakh)

Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2009-14	(%)	Total Cost as on 31.3.2014	(%)
<b>Asset-1</b>						
Debt	46601.72	70.00	3450.94	90.50	50052.66	71.11
Equity	19972.16	30.00	362.39	9.50	20334.55	28.89
<b>Total</b>	<b>66573.88</b>	<b>100.00</b>	<b>3813.33</b>	<b>100.00</b>	<b>70387.21</b>	<b>100.00</b>
<b>Asset-2</b>						
Debt	29958.08	70.00	2895.76	74.65	32853.84	70.39
Equity	12839.17	30.00	983.58	25.35	13822.75	29.61
<b>Total</b>	<b>42797.25</b>	<b>100.00</b>	<b>3879.34</b>	<b>100.00</b>	<b>46676.59</b>	<b>100.00</b>
<b>Asset-3(I)</b>						
Debt	1080.16	70.00	41.30	70.00	1121.46	70.00
Equity	462.92	30.00	17.70	30.00	480.62	30.00
<b>Total</b>	<b>1543.08</b>	<b>100.00</b>	<b>59.00</b>	<b>100.00</b>	<b>1602.08</b>	<b>100.00</b>
<b>Asset-3(II&amp;III)</b>						
Debt	1283.04	70.00	43.61	70.00	1326.65	70.00



Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2009-14	(%)	Total Cost as on 31.3.2014	(%)
Equity	549.87	30.00	18.69	30.00	568.56	30.00
<b>Total</b>	<b>1832.91</b>	<b>100.00</b>	<b>62.30</b>	<b>100.00</b>	<b>1895.21</b>	<b>100.00</b>
<b>Asset-3(IV)</b>						
Debt	11633.09	70.00	634.90	80.47	12267.99	70.47
Equity	4985.61	30.00	154.05	19.53	5139.66	29.53
<b>Total</b>	<b>16618.70</b>	<b>100.00</b>	<b>788.95</b>	<b>100.00</b>	<b>17407.65</b>	<b>100.00</b>
<b>Asset-3(V)</b>						
Debt	3900.53	70.00	84.39	79.50	3984.92	70.18
Equity	1671.66	30.00	21.76	20.50	1693.42	29.82
<b>Total</b>	<b>5572.19</b>	<b>100.00</b>	<b>106.15</b>	<b>100.00</b>	<b>5678.34</b>	<b>100.00</b>

### Return on Equity (“ROE”)

23. Clause (3), (4) and (5) of the Regulation 15 of the 2009 Tariff Regulations provides as follows:-

“(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:

Rate of pre-tax return on equity = 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.”



24. 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

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

(₹ in lakh)

Return on Equity	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in previous order	562.37	2249.48	159.92	1919.08	1919.08
Claimed by the petitioner	967.10	3950.46	209.95	2607.06	2703.01
Allowed in this order	967.81	3953.41	209.95	2607.15	2703.07

(₹ in lakh)

Return on Equity	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in previous order	37.20	74.40	74.40	29.85	89.97	90.13
Claimed by the petitioner	44.99	91.69	94.24	35.61	107.10	109.94
Allowed in this order	44.99	91.70	94.25	35.61	107.10	109.94

(₹ in lakh)

Return on Equity	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2011-12	2012-13
Approved in previous order	69.42	893.94	953.48	295.53	307.93
Claimed by the petitioner	80.63	977.98	1002.91	325.29	331.34
Allowed in this order	80.66	978.41	1003.36	325.05	331.10



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 due to actual additional capital expenditure.

### **Interest on Loan (“IoL”)**

26. 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”.

27. 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:-

(₹ in lakh)

Interest on Loan	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in previous order	140.38	534.59	88.42	1296.66	1203.93
Claimed by the petitioner	277.35	1136.10	87.67	1021.20	896.15
Allowed in this order	277.34	1136.69	87.67	1021.86	895.94

(₹ in lakh)

Interest on Loan	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in previous order	31.52	58.88	52.98	23.44	66.35	59.73





Claimed by the petitioner	35.80	68.67	62.85	26.05	74.14	67.58
Allowed in this order	35.80	68.66	62.85	26.05	74.16	67.57

(₹ in lakh)

	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13
Interest on Loan					
Approved in previous order	40.04	487.79	467.93	137.52	128.85
Claimed by the petitioner	43.53	513.63	471.59	144.08	127.06
Allowed in this order	43.55	513.84	471.78	143.97	126.97

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

28. 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:-

(₹ in lakh)

Depreciation	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in Previous Order	566.19	2264.76	161.01	1932.14	1932.14
Claimed by the petitioner	895.60	3684.50	190.70	2383.93	2457.68
Allowed in this Order	896.24	3687.06	190.70	2383.93	2457.68

(₹ in lakh)

Depreciation	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in Previous Order	36.57	73.14	73.14	29.47	88.81	88.97
Claimed by the petitioner	39.98	81.52	82.82	31.75	95.50	96.90
Allowed in this Order	39.98	81.52	82.82	31.75	95.51	96.91



(₹ in lakh)

Depreciation	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2011-12	2012-13
Approved in Previous Order	69.81	897.54	956.00	295.92	307.78
Claimed by the petitioner	73.15	894.45	913.46	295.22	297.95
Allowed in this Order	73.18	894.83	913.83	295.00	297.72

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”)**

29. 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:-

(₹ in lakh)

O&M Expenses	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in Previous Order	195.80	827.80	13.13	166.76	176.20
Claimed by the petitioner	195.80	827.80	13.13	166.76	176.22
Allowed in this Order	195.80	827.80	13.13	166.76	176.22

(₹ in lakh)

O&M Expenses	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in Previous Order	31.90	67.44	71.30	22.47	71.26	75.33
Claimed by the petitioner	31.90	67.44	71.30	22.47	71.26	75.33
Allowed in this Order	31.90	67.44	71.30	22.47	71.26	75.33

(₹ in lakh)



O&M Expenses	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2011-12	2012-13
Approved in Previous Order	11.94	151.54	160.17	151.54	160.17
Claimed by the petitioner	11.94	151.54	160.17	151.54	160.17
Allowed in this Order	11.94	151.54	160.17	151.54	160.17

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

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

(₹ in lakh)

Interest on Working Capital	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in Previous Order	40.03	161.94	8.81	110.82	109.42
Claimed by the petitioner	60.08	247.62	10.38	128.09	129.43
Allowed in this Order	60.11	247.76	10.38	128.10	129.43

(₹ in lakh)

Interest on Working Capital	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Approved in Previous Order	3.63	7.36	7.42	2.73	8.31	8.38
Claimed by the petitioner	3.94	8.06	8.21	2.94	8.94	9.09
Allowed in this Order	3.94	8.06	8.21	2.94	8.94	9.09

(₹ in lakh)

Interest on Working Capital	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2011-12	2012-13
Approved in Previous Order	4.15	52.79	55.17	25.15	25.99
Claimed by the petitioner	4.51	54.93	55.38	25.97	26.26
Allowed in this Order	4.52	54.94	55.40	25.96	26.24



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**

31. 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:-

#### **Asset 1 and 2:**

(₹ in lakh)

Particulars	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
<b>Depreciation</b>					
Opening Gross Block	66573.88	69221.61	42797.25	43883.26	46417.16
Additional Capitalisation	2647.73	1165.60	1086.01	2533.90	259.43
Closing Gross Block	69221.61	70387.21	43883.26	46417.16	46676.59
Average Gross Block	67897.75	69804.41	43340.26	45150.21	46546.88
Rate of Depreciation (%)	5.28%	5.28%	0.05	5.28%	5.28%
Depreciable Value	61107.97	62823.97	39006.23	40635.19	41892.19
Balance useful life of the asset	33.00	32.00	35.00	34.00	33.00
Elapsed life	0.00	1.00	0.00	1.00	2.00
Remaining Depreciable Value	61107.97	61927.73	39006.23	40444.49	39317.56
Depreciation during the year	896.24	3687.06	190.70	2383.93	2457.68
Depreciation upto previous year	0.00	896.24	0.00	190.70	2574.63
Cumulative depreciation (incl. of AAD)	896.24	4583.30	190.70	2574.63	5032.30
<b>Interest on Loan</b>					
Gross Normative Loan	46601.72	49236.74	29958.08	30718.35	32672.24
Cumulative Repayment upto Previous Year	0.00	896.24	0.00	190.70	2574.63
Net Loan-Opening	46601.72	48340.50	29958.08	30527.65	30097.61
Additions	2635.02	815.92	760.27	1953.89	181.60
Repayment during the year	896.24	3687.06	190.70	2383.93	2457.68
Net Loan-Closing	48340.50	45469.36	30527.65	30097.61	27821.54
Average Loan	47471.11	46904.93	30242.87	30312.63	28959.57
Weighted Average Rate of Interest on Loan (%)	2.3369%	2.4234%	3.4788%	3.3711%	3.0938%
Interest on Loan	277.34	1136.69	87.67	1021.86	895.94
<b>Return on Equity</b>					



Particulars	Asset-1		Asset-2		
	2012-13 (pro-rata)	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Opening Equity	19972.16	19984.87	12839.17	13164.91	13744.92
Additions	12.71	349.68	325.74	580.01	77.83
Closing Equity	19984.87	20334.55	13164.91	13744.92	13822.75
Average Equity	19978.52	20159.71	13002.04	13454.92	13783.83
Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500%	15.500%
MAT rate for the respective year (%)	20.008%	20.961%	20.008%	20.008%	20.961%
Rate of Return on Equity (%)	19.377%	19.610%	19.377%	19.377%	19.610%
Return on Equity	967.81	3953.41	209.95	2607.15	2703.07
<b>Interest on Working Capital</b>					
O & M expenses	65.27	68.96	13.13	13.89	14.68
Maintenance Spares	117.48	124.17	23.64	25.01	26.43
Receivables	1598.20	1642.12	1023.67	1051.30	1060.39
Total	1780.95	1835.25	1060.44	1090.21	1101.50
Rate of Interest(%)	13.50%	13.50%	11.75%	11.75%	11.75%
Interest on Working Capital	60.11	247.76	10.38	128.10	129.43
<b>Annual Transmission Charges</b>					
Depreciation	896.24	3687.06	190.70	2383.93	2457.68
Interest on Loan	277.34	1136.69	87.67	1021.86	895.94
Return on Equity	967.81	3953.41	209.95	2607.15	2703.07
Interest on Working Capital	60.11	247.76	10.38	128.10	129.43
O & M Expenses	195.80	827.80	13.13	166.76	176.22
<b>Total</b>	<b>2397.30</b>	<b>9852.73</b>	<b>511.84</b>	<b>6307.81</b>	<b>6362.33</b>

### Asset 3:

(₹ in lakh)

Particulars	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
<b>Depreciation</b>						
Opening Gross Block	1543.08	1552.74	1602.08	1832.91	1842.41	1842.41
Additional Capitalisation	9.66	49.34	0.00	9.50	0.00	52.80
Closing Gross Block	1552.74	1602.08	1602.08	1842.41	1842.41	1895.21
Average Gross Block	1547.91	1577.41	1602.08	1837.66	1842.41	1868.81
Rate of Depreciation (%)	0.05	5.17%	5.17%	0.05	5.18%	5.19%
Depreciable Value	1393.12	1419.67	1441.87	1653.89	1658.17	1681.93
Balance useful life of the asset	30.00	29.00	28.00	31.00	30.00	29.00
Elapsed life	0.00	1.00	2.00	0.00	1.00	2.00
Remaining Depreciable Value	1393.12	1379.69	1320.37	1653.89	1626.41	1554.66



Particulars	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Depreciation during the year	39.98	81.52	82.82	31.75	95.51	96.91
Depreciation upto previous year	0.00	39.98	121.50	0.00	31.75	127.27
Cumulative depreciation (incl. of AAD)	39.98	121.50	204.33	31.75	127.27	224.17
<b>Interest on Loan</b>						
Gross Normative Loan	1080.16	1086.92	1121.46	1283.04	1289.69	1289.69
Cumulative Repayment upto Previous Year	0.00	39.98	121.50	0.00	31.75	127.27
Net Loan-Opening	1080.16	1046.94	999.95	1283.04	1257.93	1162.42
Additions	6.76	34.54	0.00	6.65	0.00	36.96
Repayment during the year	39.98	81.52	82.82	31.75	95.51	96.91
Net Loan-Closing	1046.94	999.95	917.13	1257.93	1162.42	1102.47
Average Loan	1063.55	1023.44	958.54	1270.48	1210.18	1132.45
Weighted Average Rate of Interest on Loan (%)	6.7327%	6.7091 %	6.5570%	6.1519 %	6.1280 %	5.9668 %
Interest on Loan	35.80	68.66	62.85	26.05	74.16	67.57
<b>Return on Equity</b>						
Opening Equity	462.92	465.82	480.62	549.87	552.72	552.72
Additions	2.90	14.80	0.00	2.85	0.00	15.84
Closing Equity	465.82	480.62	480.62	552.72	552.72	568.56
Average Equity	464.37	473.22	480.62	551.30	552.72	560.64
Return on Equity (Base Rate) (%)	15.500%	15.500 %	15.500%	15.500 %	15.500 %	15.500 %
MAT rate for the respective year (%)	20.008%	20.008 %	20.961%	20.008 %	20.008 %	20.961 %
Rate of Return on Equity (%)	19.377%	19.377 %	19.610%	19.377 %	19.377 %	19.610 %
Return on Equity	44.99	91.70	94.25	35.61	107.10	109.94
<b>Interest on Working Capital</b>						
O & M expenses	5.32	5.62	5.94	5.62	5.94	6.27
Maintenance Spares	9.57	10.12	10.69	10.11	10.69	11.30
Receivables	52.20	52.90	53.24	59.41	59.50	59.81
Total	67.09	68.63	69.87	75.14	76.12	77.38
Rate of Interest(%)	11.75%	11.75%	11.75%	11.75%	11.75%	11.75%
Interest on Working Capital	3.94	8.06	8.21	2.94	8.94	9.09
<b>Annual Transmission Charges</b>						
Depreciation	39.98	81.52	82.82	31.75	95.51	96.91



Particulars	Asset-3(I)			Asset-3(II&III)		
	2011-12 (pro-rata)	2012-13	2013-14	2011-12 (pro-rata)	2012-13	2013-14
Interest on Loan	35.80	68.66	62.85	26.05	74.16	67.57
Return on Equity	44.99	91.70	94.25	35.61	107.10	109.94
Interest on Working Capital	3.94	8.06	8.21	2.94	8.94	9.09
O & M Expenses	31.90	67.44	71.30	22.47	71.26	75.33
<b>Total</b>	<b>156.61</b>	<b>317.39</b>	<b>319.43</b>	<b>118.83</b>	<b>356.98</b>	<b>358.84</b>

(₹ in lakh)

Particulars	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
<b>Depreciation</b>					
Opening Gross Block	16618.70	16684.64	17253.03	5572.19	5644.76
Additional Capitalisation	65.94	568.39	154.62	72.57	33.58
Closing Gross Block	16684.64	17253.03	17407.65	5644.76	5678.34
Average Gross Block	16651.67	16968.84	17330.34	5608.48	5661.55
Rate of Depreciation (%)	0.05	5.27%	5.27%	5.26%	5.26%
Depreciable Value	14986.51	15271.95	15597.31	5047.63	5095.40
Balance useful life of the asset	34.00	33.00	32.00	33.00	32.00
Elapsed life	0.00	1.00	2.00	0.00	1.00
Remaining Depreciable Value	14986.51	15198.77	14629.30	5047.63	4800.39
Depreciation during the year	73.18	894.83	913.83	295.00	297.72
Depreciation upto previous year	0.00	73.18	968.01	0.00	295.00
Cumulative depreciation (incl. of AAD)	73.18	968.01	1881.84	295.00	592.73
<b>Interest on Loan</b>					
Gross Normative Loan	11633.09	11679.25	12159.76	3900.53	3961.41
Cumulative Repayment upto Previous Year	0.00	73.18	968.01	0.00	295.00
Net Loan-Opening	11633.09	11606.07	11191.75	3900.53	3666.41
Additions	46.16	480.51	108.23	60.88	23.51
Repayment during the year	73.18	894.83	913.83	295.00	297.72
Net Loan-Closing	11606.07	11191.75	10386.15	3666.41	3392.19
Average Loan	11619.58	11398.91	10788.95	3783.47	3529.30
Weighted Average Rate of Interest on Loan (%)	4.4975%	4.5078%	4.3728%	3.8051%	3.5976%
Interest on Loan	43.55	513.84	471.78	143.97	126.97
<b>Return on Equity</b>					
Opening Equity	4985.61	5005.39	5093.27	1671.66	1683.35
Additions	19.78	87.88	46.39	11.69	10.07



Particulars	Asset-3(IV)			Asset-3(V)	
	2011-12 (pro-rata)	2012-13	2013-14	2012-13	2013-14
Closing Equity	5005.39	5093.27	5139.66	1683.35	1693.42
Average Equity	4995.50	5049.33	5116.47	1677.50	1688.38
Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500%	15.500%
MAT rate for the respective year (%)	20.008%	20.008%	20.961%	20.008%	20.961%
Rate of Return on Equity (%)	19.377%	19.377%	19.610%	19.377%	19.610%
Return on Equity	80.66	978.41	1003.36	325.05	331.10
<b>Interest on Working Capital</b>					
O & M expenses	11.94	12.62	13.34	12.62	13.34
Maintenance Spares	21.50	22.73	24.03	22.73	24.03
Receivables	427.71	432.26	434.09	156.92	157.03
Total	461.15	467.61	471.46	192.27	194.40
Rate of Interest(%)	11.75%	11.75%	11.75%	13.50%	13.50%
Interest on Working Capital	4.52	54.94	55.40	25.96	26.24
<b>Annual Transmission Charges</b>					
Depreciation	73.18	894.83	913.83	295.00	297.72
Interest on Loan	43.55	513.84	471.78	143.97	126.97
Return on Equity	80.66	978.41	1003.36	325.05	331.10
Interest on Working Capital	4.52	54.94	55.40	25.96	26.24
O & M Expenses	11.94	151.54	160.17	151.54	160.17
<b>Total</b>	<b>213.85</b>	<b>2593.56</b>	<b>2604.54</b>	<b>941.52</b>	<b>942.20</b>

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

32. The petitioner has combined Asset-1 and Asset-2 as SET-A and Asset 3(I,II,III,IV &V) as SET-D and has claimed one combined tariff for the assets for 2014-19 tariff period. The tariff charges claimed for 2014-19 tariff period as under:-

#### **SET -A**

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	6190.41	6204.89	6210.16	6210.16	6210.16
Interest on Loan	1861.54	1688.87	1506.18	1316.45	1130.97
Return on Equity	6740.98	6757.12	6763.00	6763.00	6763.00
Interest on Working Capital	399.02	397.70	395.74	393.46	391.33
O & M Expenses	1059.21	1094.49	1130.49	1168.28	1207.05
<b>Total</b>	<b>16251.16</b>	<b>16143.07</b>	<b>16005.57</b>	<b>15851.35</b>	<b>15702.51</b>





**SET -D**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1416.86	1436.23	1436.23	1436.23	1436.23
Interest on Loan	669.52	610.64	538.90	466.40	395.55
Return on Equity	1585.81	1607.90	1607.90	1607.90	1607.90
Interest on Working Capital	108.09	108.49	107.65	106.81	106.04
O & M Expenses	426.58	441.00	455.71	470.69	486.37
<b>Total</b>	<b>4206.86</b>	<b>4204.26</b>	<b>4146.39</b>	<b>4088.03</b>	<b>4032.09</b>

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

**SET-A**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	88.27	91.21	94.21	97.36	100.59
Maintenance Spares	158.88	164.17	169.57	175.24	181.06
Receivables	2708.53	2690.51	2667.60	2641.89	2617.09
Total	2955.38	2945.89	2931.38	2914.49	2898.74
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	<b>399.02</b>	<b>397.70</b>	<b>395.74</b>	<b>393.46</b>	<b>391.33</b>

**SET-D**

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	35.33	36.75	37.98	39.22	40.53
Maintenance Spares	63.99	66.15	68.36	70.60	72.96
Receivables	701.14	700.71	691.07	681.34	672.02
Total	800.68	803.61	797.41	791.16	785.51
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	<b>108.09</b>	<b>108.49</b>	<b>107.65</b>	<b>106.81</b>	<b>106.04</b>



## Capital Cost

34. 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;”

35. The petitioner has combined Assets 1&2 as SET-A and Asset-3 (I,II,III,IV and V) as SET-D for claiming tariff during 2014-19 tariff period and accordingly claimed capital cost of combined assets is ₹117015.10 lakh and ₹26580.18 lakh for SET-A and SET-D respectively as on 31.3.2014. We have considered the capital cost of ₹117063.80 lakh for SET-A and ₹26583.29 lakh for SET-D as worked out in earlier paras, as the opening capital cost on 1.4.2014 for determination of tariff in accordance with Regulation 9 of the 2014 Tariff Regulations as shown below:-

(₹ in lakh)

Name of Asset	Apportioned approved cost as per RCE	Capital cost as on 31.3.2014
Asset-1	71683.31	70387.21
Asset-2	46869.59	46676.59
<b>Total</b>	<b>118552.9</b>	<b>117063.80</b>
Asset-3(I)	1602.08	1602.08
Asset-3(II&III)	1895.32	1895.21
Asset-3(IV)	18309.18	17407.65
Asset-3(V)	6157.28	5678.34
<b>Total</b>	<b>27963.86</b>	<b>26583.29</b>



## **Additional Capital Expenditure**

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

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

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
- (ii) Change in law or compliance of any existing law;

XXX"

37. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines "cut-off" as follows:-

"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 a 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."

38. The petitioner has claimed additional capital expenditure for 2014-19 tariff period under Regulation 14(2) of the 2014 Tariff Regulations. The additional capital expenditure allowed is as shown below:-

(₹ in lakh)

Name of Asset	Apportioned approved cost as per RCE	Capital cost as on 1.3.2014	Additional capital expenditure allowed			Capital cost as on 31.3.2019
			2014-15	2015-16	Total	
Asset-1	71683.31	70387.21	348.94	199.70	548.64	70935.85
Asset-2	46869.59	46676.59	0.00	0.00	0.00	46676.59
<b>Total</b>	<b>118552.90</b>	<b>117063.80</b>	<b>348.94</b>	<b>199.70</b>	<b>548.64</b>	<b>117612.44</b>
Asset-3(I)	1602.08	1602.08	0.00	0.00	0.00	1602.08
Asset-3(II&III)	1895.32	1895.21	0.00	0.00	0.00	1895.21
Asset-3(IV)	18309.18	17407.65	540.77	0.00	540.77	17948.42
Asset-3(V)	6157.28	5678.34	210.40	0.00	210.40	5888.74
<b>Total</b>	<b>27963.86</b>	<b>26583.28</b>	<b>751.17</b>	<b>0.00</b>	<b>751.17</b>	<b>27334.45</b>



39. The petitioner has claimed the admissibility of additional capital expenditure before the cut-off date under Regulation 14(3) of 2014 Tariff Regulations. We have considered the submissions of the petitioner with regard to the estimated capital expenditure during 2014-19. The above mentioned additional capital expenditure is towards balance and retention payments and the same has been certified by the Auditor vide certificates dated 2.3.2015 for all the assets. Further, the total capital cost for all the assets as on 31.3.2019 is within the approved apportioned cost of the project. Thus, the same is allowed for the purpose of revision of tariff in accordance with Regulation 14(3) of the 2014 Tariff Regulations.

**Debt: Equity**

40. 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.”

41. The normative debt:equity ratio has been considered to work out the tariff in accordance with the 2014 Tariff Regulations as given below:-

## SET-A

(₹ in lakh)

Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Debt	82906.50	70.82	384.05	70.00	83290.55	70.82
Equity	34157.30	29.18	164.59	30.00	34321.90	29.18
<b>Total</b>	<b>117063.80</b>	<b>100.00</b>	<b>548.64</b>	<b>100.00</b>	<b>117612.44</b>	<b>100.00</b>

## SET-D

(₹ in lakh)

Funding	Capital cost as on 31.3.2014	(%)	Additional capital expenditure during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Debt	18701.02	70.35	525.82	70.00	19226.84	70.34
Equity	7882.27	29.65	225.35	30.00	8107.62	29.66
<b>Total</b>	<b>26583.29</b>	<b>100.00</b>	<b>751.17</b>	<b>100.00</b>	<b>27334.46</b>	<b>100.00</b>

**Return on Equity (“ROE”)**

42. 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.”



43. 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:-

**SET-A**

(₹ in lakh)

<b>Return on Equity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	34157.30	34261.99	34321.90	34321.90	34321.90
Additions	104.68	59.91	0.00	0.00	0.00
Closing Equity	34261.99	34321.90	34321.90	34321.90	34321.90
Average Equity	34209.64	34291.94	34321.90	34321.90	34321.90
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	6708.66	6724.80	6730.68	6730.68	6730.68

**SET-D**

(₹ in lakh)

<b>Return on Equity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	7882.27	8107.62	8107.62	8107.62	8107.62
Additions	225.35	0.00	0.00	0.00	0.00
Closing Equity	8107.62	8107.62	8107.62	8107.62	8107.62
Average Equity	7994.94	8107.62	8107.62	8107.62	8107.62
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	1567.84	1589.94	1589.94	1589.94	1589.94

**Interest on Loan (“IoL”)**

44. 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.”

45. 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 allowed is as follows:-

SET-A

(₹ 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	82906.50	83150.76	83290.55	83290.55	83290.55
Cumulative Repayment upto Previous Year	9615.60	15808.59	22016.06	28228.80	34441.54
Net Loan-Opening	73290.89	67342.17	61274.49	55061.75	48849.01
Additions	244.26	139.79	0.00	0.00	0.00
Repayment during the year	6192.98	6207.47	6212.74	6212.74	6212.74
Net Loan-Closing	67342.17	61274.49	55061.75	48849.01	42636.27
Average Loan	70316.53	64308.33	58168.12	51955.38	45742.64
Weighted Average Rate of Interest on Loan (%)	2.6553%	2.6347%	2.5985%	2.5437%	2.4833%
Interest on Loan	1867.08	1694.32	1511.48	1321.60	1135.94

SET-D

(₹ 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	18701.02	19226.84	19226.84	19226.84	19226.84
Cumulative Repayment upto Previous Year	2903.07	4320.09	5756.49	7192.89	8629.29



<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>
Net Loan-Opening	15797.95	14906.75	13470.35	12033.94	10597.54
Additions	525.82	0.00	0.00	0.00	0.00
Repayment during the year	1417.02	1436.40	1436.40	1436.40	1436.40
Net Loan-Closing	14906.75	13470.35	12033.94	10597.54	9161.14
Average Loan	15352.35	14188.55	12752.14	11315.74	9879.34
Weighted Average Rate of Interest on Loan (%)	4.3615%	4.3042%	4.1917%	4.1221%	4.0042%
Interest on Loan	669.59	610.70	534.53	466.45	395.59

### **Depreciation**

46. 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."

47. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2014 and accumulated depreciation up to 31.3.2014. 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:-





## SET-A

(₹ in lakh)

Depreciation	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	117063.80	117412.74	117612.44	117612.44	117612.44
Additional Capitalisation	348.94	199.70	0.00	0.00	0.00
Closing Gross Block	117412.74	117612.44	117612.44	117612.44	117612.44
Average Gross Block	117238.27	117512.59	117612.44	117612.44	117612.44
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	105514.44	105761.33	105851.20	105851.20	105851.20
Balance useful life of the asset	32.00	31.00	30.00	29.00	28.00
Elapsed life	2.00	3.00	4.00	5.00	6.00
Remaining Depreciable Value	95898.84	89952.74	83835.14	77622.40	71409.66
Depreciation during the year	6192.98	6207.47	6212.74	6212.74	6212.74
Depreciation upto previous year	9615.60	15808.59	22016.06	28228.80	34441.54
Cumulative depreciation	15808.59	22016.06	28228.80	34441.54	40654.28

## SET-D

(₹ in lakh)

Depreciation	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	26583.29	27334.46	27334.46	27334.46	27334.46
Additional Capitalisation	751.17	0.00	0.00	0.00	0.00
Closing Gross Block	27334.46	27334.46	27334.46	27334.46	27334.46
Average Gross Block	26958.87	27334.46	27334.46	27334.46	27334.46
Rate of Depreciation (%)	5.26%	5.18%	5.18%	5.18%	5.18%
Depreciable Value	24262.98	24939.04	24601.01	24601.01	24601.01
Balance useful life of the asset	31.00	30.00	29.00	28.00	27.00
Elapsed life	3.00	4.00	5.00	6.00	7.00

**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 total allowable O&M Expenses for the instant assets have been worked out and allowed are as follows:-

## SET-A

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV Bays*:</b>					
No. of Bays	06	06	06	06	06
Norms(₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>S/C (Bundled Conductor with four subconductors) line:</b>					
Line Length	258.29	258.29	258.29	258.29	258.29
Norms(₹ lakh/km)	0.61	0.63	0.65	0.67	0.69



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>D/C (Bundled Conductor with four subconductors) line:</b>					
Line length	373.038	373.038	373.038	373.038	373.038
Norms(₹ lakh/km)	1.06	1.10	1.13	1.17	1.21
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>914.49</b>	<b>944.97</b>	<b>975.99</b>	<b>1008.68</b>	<b>1042.11</b>

\*Petitioner has inadvertently claimed the O&M for 765kV bays in instant petition instead of 400kV for 2014-19 tariff period. The same has been rectified for final O&M calculation purpose.

#### SET-D

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV Bays:</b>					
No. of Bays	04	04	04	04	04
Norms(₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>S/C (Twin Conductor) line:</b>					
Line Length	445.828	445.828	445.828	445.828	445.828
Norms(₹ lakh/km)	0.40	0.42	0.43	0.45	0.46
<b>D/C (Twin Conductor) line:</b>					
Line length	7.454	7.454	7.454	7.454	7.454
Norms(₹ lakh/km)	0.71	0.73	0.76	0.78	0.81
<b>Total O&amp;M Expenses (₹ lakh)</b>	<b>426.58</b>	<b>441.00</b>	<b>455.71</b>	<b>470.69</b>	<b>486.37</b>

49. 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)**



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

**“28. Interest on Working Capital**

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

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

51. The petitioner has submitted that it has computed interest on working capital for the tariff block 2014-19 considering the SBI Base Rate plus 350 basis points as on 1.4.2014. The rate of interest on working capital considered is 13.50%.

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

SET-A

(₹ in lakh)

Interest on Working Capital	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	76.18	78.72	81.30	84.02	86.81
Maintenance Spares	137.17	141.75	146.40	151.30	156.32
Receivables	2678.95	2660.07	2636.25	2609.63	2583.85
Total	2892.30	2880.53	2863.95	2844.96	2826.98
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	390.46	388.87	386.63	384.07	381.64

SET-D

(₹ in lakh)

Interest on Working Capital	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	35.53	36.74	37.96	39.21	40.52



Maintenance Spares	63.99	66.15	68.36	70.60	72.96
Receivables	698.12	697.69	687.29	678.31	668.99
Total	797.64	800.57	793.60	788.13	782.46
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	107.68	108.08	107.14	106.40	105.63

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

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

SET-A

	(₹ 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	117063.80	117412.74	117612.44	117612.44	117612.44
Additional Capitalisation	348.94	199.70	0.00	0.00	0.00
Closing Gross Block	117412.74	117612.44	117612.44	117612.44	117612.44
Average Gross Block	117238.27	117512.59	117612.44	117612.44	117612.44
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	105514.44	105761.33	105851.20	105851.20	105851.20
Balance useful life of the asset	32.00	31.00	30.00	29.00	28.00
Elapsed life	2.00	3.00	4.00	5.00	6.00
Remaining Depreciable Value	95898.84	89952.74	83835.14	77622.40	71409.66
Depreciation during the year	6192.98	6207.47	6212.74	6212.74	6212.74
Depreciation upto previous year	9615.60	15808.59	22016.06	28228.80	34441.54
Cumulative depreciation	15808.59	22016.06	28228.80	34441.54	40654.28
<b>Interest on Loan</b>					
Gross Normative Loan	82906.50	83150.76	83290.55	83290.55	83290.55
Cumulative Repayment upto Previous Year	9615.60	15808.59	22016.06	28228.80	34441.54
Net Loan-Opening	73290.89	67342.17	61274.49	55061.75	48849.01
Additions	244.26	139.79	0.00	0.00	0.00
Repayment during the year	6192.98	6207.47	6212.74	6212.74	6212.74
Net Loan-Closing	67342.17	61274.49	55061.75	48849.01	42636.27
Average Loan	70316.53	64308.33	58168.12	51955.38	45742.64
Weighted Average Rate of Interest on Loan (%)	2.6553%	2.6347%	2.5985%	2.5437%	2.4833%
Interest on Loan	1867.08	1694.32	1511.48	1321.60	1135.94
<b>Return on Equity</b>					
Opening Equity	34157.30	34261.99	34321.90	34321.90	34321.90
Additions	104.68	59.91	0.00	0.00	0.00
Closing Equity	34261.99	34321.90	34321.90	34321.90	34321.90
Average Equity	34209.64	34291.94	34321.90	34321.90	34321.90
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
(%)					
MAT rate for the 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	6708.66	6724.80	6730.68	6730.68	6730.68
<b>Interest on Working Capital</b>					
O & M expenses	76.18	78.72	81.30	84.02	86.81
Maintenance Spares	137.17	141.75	146.40	151.30	156.32
Receivables	2678.95	2660.07	2636.25	2609.63	2583.85
Total	2892.30	2880.53	2863.95	2844.96	2826.98
Rate of Interest(%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	390.46	388.87	386.63	384.07	381.64
<b>Annual Transmission Charges</b>					
Depreciation	6192.98	6207.47	6212.74	6212.74	6212.74
Interest on Loan	1867.08	1694.32	1511.48	1321.60	1135.94
Return on Equity	6708.66	6724.80	6730.68	6730.68	6730.68
Interest on Working Capital	390.46	388.87	386.63	384.07	381.64
O & M Expenses	914.49	944.97	975.99	1008.68	1042.11
<b>Total</b>	<b>16073.68</b>	<b>15960.44</b>	<b>15817.52</b>	<b>15657.78</b>	<b>15503.11</b>

SET-D

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	26583.29	27334.46	27334.46	27334.46	27334.46
Additional Capitalisation	751.17	0.00	0.00	0.00	0.00
Closing Gross Block	27334.46	27334.46	27334.46	27334.46	27334.46
Average Gross Block	26958.87	27334.46	27334.46	27334.46	27334.46
Rate of Depreciation (%)	5.26%	5.18%	5.18%	5.18%	5.18%
Depreciable Value	24262.98	24939.04	24601.01	24601.01	24601.01
Balance useful life of the asset	31.00	30.00	29.00	28.00	27.00
Elapsed life	3.00	4.00	5.00	6.00	7.00
Remaining Depreciable Value	21359.92	20280.92	18844.52	17408.12	15971.72
Depreciation during the year	1417.02	1436.40	1436.40	1436.40	1436.40
Depreciation upto previous year	2903.07	4320.09	5756.49	7192.89	8629.29
Cumulative depreciation	4320.09	5756.49	7192.89	8629.29	10065.70
<b>Interest on Loan</b>					
Gross Normative Loan	18701.02	19226.84	19226.84	19226.84	19226.84
Cumulative Repayment upto Previous Year	2903.07	4320.09	5756.49	7192.89	8629.29
Net Loan-Opening	15797.95	14906.75	13470.35	12033.94	10597.54
Additions	525.82	0.00	0.00	0.00	0.00
Repayment during the year	1417.02	1436.40	1436.40	1436.40	1436.40
Net Loan-Closing	14906.75	13470.35	12033.94	10597.54	9161.14
Average Loan	15352.35	14188.55	12752.14	11315.74	9879.34



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Weighted Average Rate of Interest on Loan (%)	4.3615%	4.3042%	4.1917%	4.1221%	4.0042%
Interest on Loan	669.59	610.70	534.53	466.45	395.59
<b>Return on Equity</b>					
Opening Equity	7882.27	8107.62	8107.62	8107.62	8107.62
Additions	225.35	0.00	0.00	0.00	0.00
Closing Equity	8107.62	8107.62	8107.62	8107.62	8107.62
Average Equity	7994.94	8107.62	8107.62	8107.62	8107.62
Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500%	15.500%
MAT rate for the year(%)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (%)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity	1567.84	1589.94	1589.94	1589.94	1589.94
<b>Interest on Working Capital</b>					
O & M expenses	35.53	36.74	37.96	39.21	40.52
Maintenance Spares	63.99	66.15	68.36	70.60	72.96
Receivables	698.12	697.69	687.29	678.31	668.99
Total	797.64	800.57	793.60	788.13	782.46
Rate of Interest(%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	107.68	108.08	107.14	106.40	105.63
<b>Annual Transmission Charges</b>					
Depreciation	1417.02	1436.40	1436.40	1436.40	1436.40
Interest on Loan	669.59	610.70	534.53	466.45	395.59
Return on Equity	1567.84	1589.94	1589.94	1589.94	1589.94
Interest on Working Capital	107.68	108.08	107.14	106.40	105.63
O & M Expenses	426.58	441.00	455.71	470.69	486.37
<b>Total</b>	<b>4188.73</b>	<b>4186.12</b>	<b>4123.71</b>	<b>4069.88</b>	<b>4013.94</b>

54. 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. However, the COD of the asset is after 2009, hence the claim of the petitioner is infructuous.

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

55. 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**

56. 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**

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

### **Sharing of Transmission Charges**

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.39/TT/2016.

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

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



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2009-14)****Asset-1**

<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on COD</b>	<b>Additions during the tariff period</b>	<b>Total</b>
				(Rs in lakh)
BOND XXIV-doco-3-	9.95	50.00	0.00	50.00
BOND XXVIII-doco-4-	9.33	1880.00	0.00	1880.00
BOND XXIX-doco-5-	9.20	10.00	0.00	10.00
IBRD IV-doco-1-55.34	1.79	23373.40	0.00	23373.40
IBRD IV ADDL-ADDCAP FOR 2012-2013 addcap 12-13-53.66	1.82	0.00	718.13	718.13
IBRD IV ADDL-doco-2-55.34	1.82	20626.32	0.00	20626.32
BOND XXXVI-ADDCAP FOR 2012-2013 addcap-12-13-	9.35	0.00	1693.89	1693.89
BOND XXXVI-doco-5-	9.35	627.92	0.00	627.92
SBI (21.03.2012)-ADDCAP FOR 2013-2014 addcap-13-14-	10.29	0.00	815.92	815.92
BOND XL-ADDCAP FOR 2012-2013 addcap2-12-13-	9.30	0.00	223.00	223.00
<b>Total</b>		<b>46567.64</b>	<b>3450.94</b>	<b>50018.58</b>

**Asset-2**

<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on COD</b>	<b>Additions during the tariff period</b>	<b>Total</b>
				(Rs in lakh)
IBRD III-doco-1-49.62	2.11	140.42	0.00	140.42
BOND XXVIII-doco-4-	9.33	2918.88	0.00	2918.88
BOND XXIX-doco-5-	9.20	3077.21	0.00	3077.21
IBRD IV-doco-2-49.62	1.95	1467.76	0.00	1467.76
IBRD IV ADDL-ADDCAP FOR 2011-2012 addcap11-12-45.43	2.06	0.00	760.27	760.27
IBRD IV ADDL-ADDCAP FOR 2012-2013 addcap12-13-55.29	1.98	0.00	1505.44	1505.44
IBRD IV ADDL-doco-3-49.62	2.06	22353.81	0.00	22353.81
BOND - XXXVI-ADDCAP FOR 2012-13 addcap	9.35	0.00	448.45	448.45
SBI (31.03.2012)-ADDCAP FOR 2013-14 addcap 14	10.29	0.00	181.60	181.60
<b>Total</b>		<b>29958.08</b>	<b>2895.76</b>	<b>32853.84</b>





**Asset-3(I)**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
				(Rs in lakh)
BOND XXVIII-doco-	9.33	400.00	0.00	400.00
BOND XXIX-doco-	9.20	225.00	0.00	225.00
IBRD IV-doco-1-49.4	1.89	371.14	0.00	371.14
IBRD IV ADDL-ADDCAP FOR 2011-2012 addcap11-12-50.28	1.83	0.00	6.79	6.79
BOND XXXVI-ADDCAP FOR 2012-2013 addcap12-13-	9.35	0.00	34.54	34.54
BOND XXXVI-doco-	9.35	84.00	0.00	84.00
<b>Total</b>		<b>1080.14</b>	<b>41.33</b>	<b>1121.47</b>

**Asset-3(II&III)**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
				(Rs in lakh)
BOND XXVIII-doco-	9.33	400.00	0.00	400.00
BOND XXIX doco-	9.20	250.00	0.00	250.00
IBRD IV ADDL-ADDCAP FOR 2011-2012 addcap-50.28	1.89	0.00	6.64	6.64
IBRD IV ADDL-doco-52.28	1.89	542.04	0.00	542.04
BOND XXXVI-doco-	9.35	91.00	0.00	91.00
SBI (21.03.2012)-ADDCAP FOR 2013-2014 addcap-	10.29	0.00	36.96	36.96
<b>Total</b>		<b>1283.04</b>	<b>43.60</b>	<b>1326.64</b>

**Asset-3(IV)**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
				(Rs in lakh)
BOND XXIV-doco-	9.95	133.00	0.00	133.00
BOND XXVIII-doco	9.33	2421.00	0.00	2421.00
BOND XXIX-doco-	9.20	1076.00	0.00	1076.00
IBRD IV-doco-49.62	1.95	7587.54	0.00	7587.54
IBRD IV ADDL-ADDCAP FOR 2011-2012 addcap-50.27	2.06	0.00	46.15	46.15
BOND XXXVI -ADDCAP FOR 2012-2013	9.35	0.00	480.51	480.51
BOND XXXVI doco-	9.35	410.44	0.00	410.44
SBI (21.03.2012)-ADDCAP FOR 2013-2014	10.29	0.00	108.23	108.23
<b>Total</b>		<b>11627.98</b>	<b>634.89</b>	<b>12262.87</b>



**Asset-3(V)**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
				(Rs in lakh)
BOND XXIV-doco-	9.95	46.30	0.00	46.30
BOND XXVIII-doco-	9.33	471.75	0.00	471.75
BOND XXIX-doco-	9.20	379.96	0.00	379.96
IBRD IV-doco-51.63	1.92	2896.49	0.00	2896.49
BOND XXXVI-ADDCAP FOR 2012-2013 addcap2-	9.35	0.00	60.88	60.88
BOND XXXVI-doco	9.35	108.93	0.00	108.93
SBI (21.03.2012)-ADDCAP FOR 2013-2014 addcap-	10.29	0.00	23.51	23.51
<b>Total</b>		<b>3903.43</b>	<b>84.39</b>	<b>3987.82</b>

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

(₹in lakh)

Asset-1		
Particulars	2012-13 (pro-rata)	2013-14
Gross Opening Loan	46567.64	49202.66
Cumulative Repayments of Loans up to Previous Year	165.00	530.73
Net Loans Opening	<b>46402.64</b>	<b>48671.93</b>
Add: Drawl(s) during the Year	2635.02	815.92
Less: Repayments during the year	365.73	1406.85
Net Closing Loan	<b>48671.93</b>	<b>48081.00</b>
Average Net Loan	47537.29	48376.47
Rate of Interest on Loan (%)*	2.34%	2.42%

(₹in lakh)

Asset-2			
Particulars	2011-12 (pro-rata)	2012-13	2013-14
Gross Opening Loan	29958.08	30718.35	32672.24
Cumulative Repayments of Loans up to Previous Year	3.38	6.83	929.70
Net Loans Opening	<b>29954.70</b>	<b>30711.52</b>	<b>31742.54</b>
Add: Drawl(s) during the Year	760.27	1953.89	181.60
Less: Repayments during the year	3.45	922.87	1379.14
Net Closing Loan	<b>30711.52</b>	<b>31742.54</b>	<b>30545.00</b>
Average Net Loan	30333.11	31227.03	31143.77
Rate of Interest on Loan (%)*	3.48%	3.37%	3.09%



<b>Interest on Loan</b>	1055.23	1052.69	963.51
<b>Asset-3(I)</b>			
<b>Particulars</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Opening Loan	1080.14	1086.93	1121.47
Cumulative Repayments of Loans up to Previous Year	0.00	0.00	52.20
<b>Net Loans Opening</b>	<b>1080.14</b>	<b>1086.93</b>	<b>1069.27</b>
Add: Drawl(s) during the Year	6.79	34.54	0.00
Less: Repayments during the year	0.00	52.20	60.53
<b>Net Closing Loan</b>	<b>1086.93</b>	<b>1069.27</b>	<b>1008.74</b>
Average Net Loan	1083.54	1078.10	1039.01
Rate of Interest on Loan (%)*	6.73%	6.71%	6.56%
<b>Interest on Loan</b>	<b>72.95</b>	<b>72.33</b>	<b>68.13</b>
<b>Asset-3(II&amp;III)</b>			
<b>Particulars</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Opening Loan	1283.04	1289.68	1289.68
Cumulative Repayments of Loans up to Previous Year	0.00	0.00	63.43
<b>Net Loans Opening</b>	<b>1283.04</b>	<b>1289.68</b>	<b>1226.25</b>
Add: Drawl(s) during the Year	6.64	0.00	36.96
Less: Repayments during the year	0.00	63.43	72.87
<b>Net Closing Loan</b>	<b>1289.68</b>	<b>1226.25</b>	<b>1190.34</b>
Average Net Loan	1286.36	1257.97	1208.30
Rate of Interest on Loan (%)*	6.15%	6.13%	5.97%
<b>Interest on Loan</b>	<b>79.14</b>	<b>77.09</b>	<b>72.10</b>

<b>Asset-3(IV)</b>			
<b>Particulars</b>	<b>2011-12 (pro-rata)</b>	<b>2012-13</b>	<b>2013-14</b>
Gross Opening Loan	11627.98	11674.13	12154.64
Cumulative Repayments of Loans up to Previous Year	11.08	22.16	325.44
<b>Net Loans Opening</b>	<b>11616.90</b>	<b>11651.97</b>	<b>11829.20</b>
Add: Drawl(s) during the Year	46.15	480.51	108.23
Less: Repayments during the year	11.08	303.28	472.01
<b>Net Closing Loan</b>	<b>11651.97</b>	<b>11829.20</b>	<b>11465.42</b>
Average Net Loan	11634.44	11740.59	11647.31
Rate of Interest on Loan (%)*	4.50%	4.51%	4.37%
<b>Interest on Loan</b>	<b>523.26</b>	<b>529.24</b>	<b>509.32</b>



<b>Asset-3(V)</b>		
<b>Particulars</b>	<b>2012-13 (pro-rata)</b>	<b>2013-14</b>
Gross Opening Loan	3903.43	3964.31
Cumulative Repayments of Loans up to Previous Year	7.72	82.55
<b>Net Loans Opening</b>	<b>3895.71</b>	<b>3881.76</b>
Add: Drawl(s) during the Year	60.88	23.51
Less: Repayments during the year	74.83	138.94
<b>Net Closing Loan</b>	<b>3881.76</b>	<b>3766.33</b>
Average Net Loan	3888.74	3824.05
Rate of Interest on Loan (%)*	3.81%	3.60%
<b>Interest on Loan</b>	<b>147.97</b>	<b>137.57</b>

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

**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)****SET-A**

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
				(Rs in lakh)
BOND-XXIV-doco-	9.95	50.00	0.00	50.00
IBRD III-DOCO-1 49.62	1.79	140.42	0.00	140.42
BOND XXVIII-DOCO-	9.33	4798.88	0.00	4798.88
BOND XXIX-DOCO-	9.20	3087.21	0.00	3087.21
IBRD IV- DOCO- 55.34	1.63	23373.40	0.00	23373.40
IBRD IV- DOCO- 11 49.62	1.63	1467.76	0.00	1467.76
IBRD IV-ADDL- ADDCAP FOR 2012-13 addcap5 53.65	1.61	718.13	0.00	718.13
IBRD IV-ADDL- ADDCAP FOR 2012-13 addcap6 55.29	1.61	1505.44	0.00	1505.44
IBRD IV ADDL-addcap-45.43	1.61	760.27	0.00	760.27
IBRD IV ADDL-doco-55.34	1.61	20626.32	0.00	20626.32
IBRD IV ADDL.-doco3-49.52	1.61	22353.81	0.00	22353.81
BOND XXXVI - doco-addcap	9.35	2770.26	0.00	2770.26
SBI (21.03.2012)-addcap-	10.25	997.52	0.00	997.52
BOND - XL-ADDCAP FOR 2012-2013	9.30	223.00	0.00	223.00
<b>Total</b>		<b>82872.42</b>	<b>0.00</b>	<b>82872.42</b>

**SET-D**

Particulars (Rs in lakh)	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XXIV-doco-	9.95	179.30	0.00	179.30
BOND XXVIII-doco-	9.33	3692.75	0.00	3692.75
BOND XXIX-doco-	9.20	1930.96	0.00	1930.96
IBRD IV-doco-49.4	1.63	371.14	0.00	371.14
IBRD IV-doco1-52.28	1.63	542.04	0.00	542.04
IBRD IV-doco2-49.62	1.63	7587.54	0.00	7587.54
IBRD IV-doco3-51.63	1.63	2896.49	0.00	2896.49
IBRD IV-ADDL- add asset 1-50.23	1.61	6.79	0.00	6.79
IBRD IV-ADDL- add asset 2-50.23	1.61	6.64	0.00	6.64
IBRD IV ADDL-add -asset3-50.27	1.61	46.15	0.00	46.15
BOND XXXVI-ADDCAP FOR addcap5-	9.35	575.93	0.00	575.93
BOND XXXVI-doco1-	9.35	694.38	0.00	694.38
SBI (21.03.2012)-ADDCAP FOR addcap-	10.25	168.70	0.00	168.70
<b>Total</b>		<b>18698.81</b>	<b>0.00</b>	<b>18698.81</b>



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

(₹in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	82872.42	82872.42	82872.42	82872.42	82872.42
Cumulative Repayments of Loans up to Previous Year	4246.40	7640.82	11111.46	14960.42	18897.25
Net Loans Opening	<b>78626.02</b>	<b>75231.60</b>	<b>71760.96</b>	<b>67912.00</b>	<b>63975.17</b>
Add: Drawl(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments during the year	3394.42	3470.64	3848.96	3936.83	4023.88
Net Closing Loan	<b>75231.60</b>	<b>71760.96</b>	<b>67912.00</b>	<b>63975.17</b>	<b>59951.29</b>
Average Net Loan	76928.81	73496.28	69836.48	65943.59	61963.23
Rate of Interest on Loan (%)*	2.66%	2.63%	2.60%	2.54%	2.48%

**SET-D**

(₹in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	18698.81	18698.81	18598.81	18698.80	18698.81
Cumulative Repayments of Loans up to Previous Year	1252.37	2262.93	3302.01	4471.24	5672.23
Net Loans Opening	<b>17446.44</b>	<b>16435.88</b>	<b>15296.80</b>	<b>14227.56</b>	<b>13026.58</b>
Add: Drawl(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments during the year	1010.56	1039.08	1169.23	1200.99	1234.43
Net Closing Loan	<b>16435.88</b>	<b>15396.80</b>	<b>14127.57</b>	<b>13026.57</b>	<b>11792.15</b>
Average Net Loan	16941.16	15916.34	14712.19	13627.07	12409.37
Rate of Interest on Loan (%)*	4.36%	4.30%	4.19%	4.12%	4.00%

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

