

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 493/TT/2014**

**Coram:**

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

**Date of Hearing : 02.12.2015  
Date of Order : 11.01.2016**

**In the matter of:**

Truing up of transmission tariff for 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for (i) Ramagundam -Hyderabad 400 kV S/C line-2 in Southern Region and (ii) Bhadrawati (Chandrapur) HVDC back to back station (2x500 MW) in Southern Region and 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 -122 001 (Haryana).

.....**Petitioner**

**Versus**

1. Karnataka Power Transmission Corporation Ltd.  
KaveriBhawan, Bangalore-560009
2. Transmission Corporation of Andhra Pradesh Ltd.  
(APTRANSCO), VidyutSoudha  
Hyderabad-500082
3. Kerala State Electricity Board (KSEB)  
VaidyuthiBhavanam, Pattom  
Thiruvananthapuram-695004



4. Tamil Nadu Generation and Distribution Corporation Ltd.  
(Formerly Tamil Nadu Electricity Board)  
NPKRR Maaligai, 800, Anna Salai  
Chennai- 600002
5. Electricity Department  
Government of Pondicherry  
Pondicherry- 605001
6. Eastern Power Distribution Company of Andhra Pradesh Ltd.  
P&T Colony, Seethmadhara, Vishakhapatnam  
Andhra Pradesh
7. Southern Power Distribution Company of Andhra Pradesh  
SrinivasasaKalyana Mandapam Backside  
Tiruchanoor Road, KesavayanaGunta  
Tirupati- 517 501
8. Central Power Distribution Company of Andhra Pradesh  
Corporate Office, Mint Compound,  
Hyderabad- 500 063
9. Northern Power Distribution Company of Andhra Pradesh  
Opp. NIT Petrol Pump,  
Chaitanyapuri, Kazipet  
Warangal- 506 004
10. Bangalore Electricity Supply Company Ltd.  
Corporate Office, K.R.Circle  
Bangalore- 560 001
11. Gulbarga Electricity Supply Company Ltd.  
Station Main Road, Gulbarga
12. Hubli Electricity Supply Company Ltd.  
Navanagar, P B Road  
Hubli, Karnataka
13. MESCOM Corporate Office  
Paradigm Plaza, AB Shetty Circle  
Mangalore- 575 001
14. Chamundeswari Electricity Supply Corporation Ltd.  
New KantharajUrs Road, Saraswatipuram,  
Mysore-570 009



15. Electricity Department  
Government of Goa  
VidyutiBhawan, Panaji  
Goa- 403001
  16. Madhya Pradesh Power Management Company Ltd.  
Shakti Bhawan, Rampur, Jabalpur-482008
  17. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4<sup>th</sup> Floor, Bandra(East), Mumbai-400052
  18. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,  
Race Course Road  
Vadodara- 390007
  19. Electricity Department  
Administration of Daman & Diu,  
Daman- 396210
  20. Electricity Department  
Administration of Dadra Nagar Haveli,  
U.T., Silvassa- 396230
  21. Chhattisgarh State Electricity Board  
P.O Sunder Nagar, Dagania, Raipur  
Chhatisgaarh-492013
  22. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay road  
Indore-452008
- .....Respondents

The following were present:-

For Petitioner: Shri Anshul Garg, PGCIL  
Shri Angaru Naresh Kumar, PGCIL  
Shri Jasbir Singh, PGCIL  
Shri S K Niranjana, PGCIL  
Shri S.K. Venkatesan, PGCIL  
Shri M.M. Mondal, PGCIL  
Shri Shashi Bhushan, PGCIL  
Shri J. Mazumder, PGCIL  
Shri Rakesh Prasad, PGCIL  
Shri Sunil Kumar, PGCIL  
Shri S.S. Raju, PGCIL



For Respondent: Shri Vallinayagam, Advocate, TANGEDCO  
Shri R. Jayaprakash, TANGEDCO

## **ORDER**

The present petition has been preferred by Power Grid Corporation of India Ltd. (“the petitioner”), a transmission licensee, for truing up of capital expenditure and tariff for (i) Ramagundam - Hyderabad 400 kV S/C line-2 in Southern Region and (ii) Bhadrawati (Chandrapur) HVDC back to back station (2x500 MW) in Southern Region and Western Region (hereinafter referred as “transmission assets”) 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 actual 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.

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

3. 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 (“the Act”). No comments have been received from the



public in response to the notices published by the petitioner under Section 64 of the Act. Reply has been filed by Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO), Respondent No. 4, vide affidavit dated 30.11.2015. The submission made by the respondents has been dealt in the respective paras of this order. The hearing in this matter was held on 2.12.2015. During the hearing, the Commission directed the petitioner to submit the Single Line Diagram of the asset and rejoinder to the reply filed by TANGEDCO on affidavit with copy to the respondents by 9.12.2015. The Commission during the hearing observed that in case no information is filed within the due date, the matter shall be considered based on the available records. The petitioner submitted the Single Line Diagram of the asset and rejoinder to the reply filed by TANGEDCO vide affidavit dated 24.12.2015. Having heard the representatives of the petitioner, the respondents and perused the material on record, we proceed to dispose of the petition.

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

(a) The Asset-I (Ramagundam-Hyderabad 400 kV S/C line-2) was put under commercial operation w.e.f. 1.8.1997 and Asset-II (Bhadrawati (Chandrapur) HVDC back to back station (2x500 MW)) was put under commercial operation w.e.f. 1.10.1997.

(b) The tariff from 1.4.2004 to 31.3.2009 was allowed vide order dated 2.5.2006 in Petition No. 137/2004 in accordance with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations,



2004. Subsequently, revised tariff was allowed vide order dated 16.4.2008 in Petition No. 137/2004 subject to decision of the Hon'ble Supreme Court in the appeals filed by the petitioner against the Hon'ble Appellate Tribunal's Judgment dated 4.10.2006 in Appeal No. 135 of 2005.

(c) The tariff for the 2009-14 period was allowed vide order dated 20.6.2011 in Petition No. 178/2010 in accordance with the 2009 Tariff Regulations.

The tariff allowed for the tariff period 2009-14 is as under:-

#### Asset-I

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	478.60	159.13	159.13	164.53	170.21
Interest on Loan	132.27	105.68	92.41	85.92	78.96
Return on equity	182.76	182.76	182.76	189.05	195.34
Interest on Working Capital	25.28	18.56	18.81	19.48	20.17
O & M Expenses	174.61	184.51	195.14	206.33	218.09
<b>Total</b>	<b>993.52</b>	<b>650.63</b>	<b>648.24</b>	<b>665.30</b>	<b>682.78</b>

#### Asset-II

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	3596.99	834.37	834.37	834.37	834.37
Interest on Loan	213.06	137.29	108.07	80.36	53.66
Return on equity	1383.99	1383.99	1383.99	1383.99	1383.99
Interest on Working Capital	152.57	95.92	98.01	100.23	102.68
O & M Expenses	886.00	936.00	990.00	1046.00	1106.00
<b>Total</b>	<b>6232.61</b>	<b>3387.57</b>	<b>3414.45</b>	<b>3444.95</b>	<b>3480.70</b>

(d) The Commission, vide order dated 20.6.2011 in Petition No. 178/2010, has determined the tariff for the tariff period 2009-14 based on admitted



capital cost of ₹9051.09 lakh for Asset-I and ₹69107.40 lakh for Asset-II as on 31.3.2009.

(e) The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.

(f) The instant petition was filed on 24.11.2014.

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

5. The truing up of tariff for 2009-14 tariff period has been determined as discussed below:-

#### **Capital Cost**

6. The petitioner has claimed admitted capital cost of ₹9051.09 lakh for Asset-I and ₹69107.40 lakh for Asset-II as on 31.3.2009 for the purpose of tariff. Further, the petitioner has claimed additional capitalisation of ₹38.97 lakh for 2009-14 tariff period for Asset-I.

7. Last proviso to Clause (2) of Regulation 7 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.”



8. The capital cost admitted as on 31.3.2009 vide order dated 16.4.2008 in Petition No. 137/2004 has been considered as the opening capital cost as on 1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations. The admitted capital cost of ₹9051.09 lakh for Asset-I and ₹69107.40 lakh for Asset-II as on 31.3.2009 has been considered to work out the trued up tariff for the tariff period 2009-14.

### **Additional Capital Expenditure**

9. The petitioner has incurred additional capitalization of ₹38.97 lakh against the approved additional capitalization of ₹240.00 lakh for Asset-I during 2009-14 tariff period on account of tower strengthening due to change in wind zone for efficient operation of transmission system. In response to the Commission's query during the hearing regarding the reasons for substantial variation in allowed and actual additional capitalization, the petitioner submitted that while estimating the cost it had not done detailed engineering and drawing for the works and estimated 240 MT of steel for the works, however, actual steel used was just 43 MT, which resulted in reduction of actual additional capitalization. Further, the Commission during the hearing enquired that whether all the works related to tower strengthening have been completed and the petitioner submitted that it has completed the tower strengthening works.

10. TANGEDCO has requested the Commission to direct the petitioner to refund the excess additional capital expenditure claim made for the year 2012-13 along with applicable interest as provided under the 2009 Tariff Regulations





along with the refund of tax excessively collected towards ROE for the year 2012-13. In response, the petitioner vide affidavit dated 24.12.2015 submitted that the revised tariff for 2009-14 tariff period based on the actual expenditure has already been submitted in the petition. The petitioner further submitted that excess tariff already collected based on estimated expenditure during 2009-14 shall be deemed to be refunded along with the applicable interest as provided under the 2009 Tariff Regulations, subsequent to issuance of order by Commission.

11. TANGEDCO has submitted that the petitioner is not entitled to the additional capitalization claimed in the petition. The claim of tower strengthening does not come under Regulation 9(2)(v) of the 2009 Tariff Regulations. The expenses should be met from the O&M Expenses granted to the petitioner under 19(g)(i) of the 2009 Tariff Regulations. The petitioner cannot be permitted to make claim under a head, which is not envisaged in the Regulations. In response, the petitioner vide affidavit dated 24.12.2015, submitted that Regulation 9(2)(v) of the 2009 Tariff Regulations allows additional capitalization for successful and efficient operation of the transmission system. Since the tower strengthening was necessary for successful and efficient operation for Asset-I, the Commission has allowed same vide order dated 20.6.2011 in Petition No. 178/2010.

12. TANGEDCO has requested the Commission to direct the petitioner to furnish the details with regard to certificate, if any, obtained from the Expert



Committee of the Central Electricity Authority (CEA) towards the expenditure incurred, briefly stating the reasons with regard to number of towers for which strengthening was actually required and number of towers for which approval was issued by the Expert Committee along with the report submitted by the petitioner to the CEA. Further, TANGEDCO has submitted that in the petition, the petitioner has not provided the justification for claim towards additional capitalization for 2013-14 and requested the Commission to disallow the claim in the absence of any justification. In response, the petitioner vide affidavit dated 24.12.2015, submitted that in-principle approval for the said additional capitalization for tower strengthening has already been granted by the Commission vide order dated 20.6.2011 in Petition No. 178/2010 based on the justification furnished in the petition. Accordingly, the petitioner in 2013-14 has incurred additional capitalization of ₹38.97 lakh towards tower strengthening for Asset-I and claimed the tariff. The petitioner has also submitted Auditor's Certificate dated 13.11.2014 showing the details of said additional capitalization. We have considered the submissions of the petitioner and TANGEDCO. The total capital cost for Asset-I and Asset-II including additional capitalisation for Asset-I during 2009-14 tariff period is ₹78197.46 lakh, which is well within the approved cost of ₹102859 lakh. Accordingly, the total capital cost including actual additional capitalization is allowed as shown in the table below:-



(₹ in lakh)

Total cost for both Asset-I and Asset-II as per Investment Approval is ₹102859 lakh								
Particulars	Admitted capital cost as on 31.3.2009	Additional capitalisation					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2014
		2009-10	2010-11	2011-12	2012-13	2013-14		
<b>Asset-I</b>								
Approved in Order dated 20.6.2011	9051.09	0.00	0.00	0.00	240.00	0.00	240.00	9291.09
Actual	9051.09	0.00	0.00	0.00	0.00	38.97	38.97	9090.06
<b>Asset-II</b>								
Approved in Order dated 20.6.2011	69107.40	0.00	0.00	0.00	0.00	0.00	0.00	69107.40
Actual	69107.40	0.00	0.00	0.00	0.00	0.00	0.00	69107.40
<b>Total actual capital cost for Asset-I and Asset-II</b>								<b>78197.46</b>

**Debt: Equity**

13. Clause 2 of Regulation 12 of the 2009 Tariff Regulations provides that:-

“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.”

14. The petitioner has claimed true up Annual Fixed Charges based on debt-equity ratio of 88.45:11.55 for Asset-I and 88.54:11.46 for Asset-II as on 31.3.2009, admitted by the Commission in its order dated 20.6.2011 in Petition No. 178/2010, as opening debt:equity ratio as on 1.4.2009. The transmission assets covered in the instant petition are existing assets, as the COD is prior to 1.4.2009. The admitted debt:equity ratio of 88.45:11.55 for Asset-I and 88.54:11.46 for Asset-II as on 31.3.2009 have been considered as opening



debt:equity ratio as on 1.4.2009 for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

**Asset-I**

Funding	Amount	(₹ in lakh) (%)
Debt	8005.64	88.45
Equity	1045.45	11.55
<b>Total</b>	<b>9051.09</b>	<b>100.00</b>

**Asset-II**

Funding	Amount	(₹ in lakh) (%)
Debt	61190.28	88.54
Equity	7917.13	11.46
<b>Total</b>	<b>69107.40</b>	<b>100.00</b>

15. With respect to additional capitalization, the petitioner has submitted the debt:equity ratio of 70:30 for 2013-14 for Asset-I. Debt:equity ratio is allowed in accordance with Clause 2 of Regulation 12 of the 2009 Tariff Regulations. Since there is no additional capitalization for Asset-II for 2009-14 tariff period, debt:equity ratio as on 31.3.2014 would remain the same as approved on 1.4.2009. The overall debt equity as on 31.3.2014 including additional capitalization for Asset-I is as under:-

Funding	Amount (₹ in lakh)	(%)
Debt	8032.92	88.37
Equity	1057.14	11.63
<b>Total</b>	<b>9090.06</b>	<b>100.00</b>



### **Interest on Loan (“IOL”)**

16. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. The Commission in its earlier order dated 8.6.2011 in Petition No. 238/2010 has 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”.

17. The Petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest. TANGEDCO has submitted that weighted average rate of interest on loan claimed by the petitioner is on higher side when compared to the interest rates approved by the Commission in its order dated 20.6.2011 in Petition No. 178/2010. In response, the petitioner vide affidavit dated 24.12.2015, submitted that weighted average rate of interest on loan for Asset-I for the tariff period 2009-14 has been calculated based on the actual rate of interest of loan. Further, TANGEDCO has requested the Commission to direct the petitioner to take all efforts to reduce the interest rates to the maximum extent considering the balance useful life period of the asset. In response, the petitioner vide affidavit dated 24.12.2015, submitted that the petitioner has taken IBRD loan for Asset-I, which was taken for basket of projects and availed the export benefits which benefits in reducing the weighted average of rate of interest to be payable by the beneficiaries.

18. We have considered the submissions of the petitioner. IOL is allowed based on the actual interest rate submitted by the petitioner, in accordance with



Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-I** and **Annexure-II** respectively for Asset-I and Asset-II and the IOL has been worked out and allowed as follows:-

**Asset-I**

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	132.27	105.68	92.41	85.92	78.96
As claimed by petitioner	133.31	110.81	99.22	85.15	69.69
Allowed after true up	133.31	110.81	99.22	85.15	69.69

The variation in interest expense is on account of actual weighted average interest rate considered for 2009-14 tariff period.

**Asset-II**

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	213.06	137.29	108.07	80.36	53.66
As claimed by petitioner	213.06	137.29	108.07	80.36	53.66
Allowed after true up	213.06	137.29	108.07	80.36	53.66

**Return on Equity (“ROE”)**

19. Clause (3), (4) and (5) of 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 maybe, 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.”

20. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 20.6.2011. However, for truing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

Particulars	MAT Rate (t) %	Grossed up ROE (Base rate/(1-t)) %
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

21. Accordingly, the ROE as trued up is as shown in the table below:-

**Asset-I**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	182.76	182.76	182.76	189.05	195.34
As claimed by petitioner	195.23	202.38	202.58	202.58	206.16
Allowed after true up	195.23	202.38	202.58	202.58	206.16



## Asset-II

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	1383.99	1383.99	1383.99	1383.99	1383.99
As claimed by petitioner	1478.44	1532.60	1534.10	1534.10	1552.55
Allowed after true up	1478.44	1532.60	1534.10	1534.10	1552.55

The variation in return on equity is due to increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

## Depreciation

22. Clause (42) of Regulation 3 of the 2009 Tariff Regulations defines useful life as follows:-

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

.....	
(c) AC and DC sub-station	25 years
(d) Hydro generating station	35 years
(e) Transmission line	35 years”

23. Clause (4) of Regulation 17 of the 2009 Tariff Regulations provides as follows:-

### **"17. Depreciation:**

...  
(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III 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 date of commercial operation shall be spread over the balance useful life of the assets.”

24. The petitioner has submitted that Asset-I and Asset-II have completed 12 years on 31.7.2009 and 30.9.2009, respectively, and accordingly, depreciation from 2010-11 onwards has been calculated based on the remaining depreciable





value to be recovered over the balance useful life as per Regulation 17 of the 2009 Tariff Regulations. The Commission, in its order dated 20.6.2011, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations.

25. The weighted average useful life of the transmission asset has been considered as per Regulation 3 (42) and 17 (4) of the 2009 Tariff Regulations. For the purpose of calculation, the weighted average useful life of the Asset-I and Asset-II as on COD has been considered as 34 years and 25 years, respectively. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under.

#### Asset-I

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	478.60	159.13	159.13	164.53	170.21
As claimed by petitioner	478.60	159.13	159.13	159.13	160.05
Allowed after true up	478.60	159.13	159.13	159.13	160.05

#### Asset-II

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	3596.99	834.37	834.37	834.37	834.37
As claimed by petitioner	3596.98	834.38	834.38	834.37	834.38
Allowed after true up	3596.99	834.37	834.37	834.37	834.37



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

26. The petitioner has computed O&M expenses for the assets mentioned in the petition and in accordance with the O&M norms for lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses have been worked out as given in the table below:-

#### **Asset-I**

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>O&amp;M Expense for line</b>					
<b>Norm (₹ lakh/km)</b>					
Single Circuit (Twin and Triple Conductor)	0.358	0.378	0.400	0.423	0.447
<b>Asset (km)</b>					
400 kV Ramagundam HYD-II transmission line	195.00	195.00	195.00	195.00	195.00
<b>Total O&amp;M Expense (line) (₹ lakh)</b>	<b>69.81</b>	<b>73.71</b>	<b>78.00</b>	<b>82.49</b>	<b>87.17</b>
<b>O&amp;M Expense for Bay</b>					
<b>Norm (₹lakh/Bay)</b>					
400 kV	52.40	55.40	58.57	61.92	65.46
<b>Bays</b>					
400 kV	2	2	2	2	2
<b>Total O&amp;M expense (Bay) (₹ lakh)</b>	<b>104.80</b>	<b>110.80</b>	<b>117.14</b>	<b>123.84</b>	<b>130.92</b>
<b>Total O&amp;M expense (Line and bays) (₹ lakh)</b>	<b>174.61</b>	<b>184.51</b>	<b>195.14</b>	<b>206.33</b>	<b>218.09</b>

#### **Asset-II**

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Norm for HVDC back to back station at Bhadrawati (Per 500 MW)	443.00	468.00	495.00	523.00	553.00
500 MW	2	2	2	2	2
<b>Total O&amp;M expense (₹ lakh)</b>	<b>886.00</b>	<b>936.00</b>	<b>990.00</b>	<b>1046.00</b>	<b>1106.00</b>



27. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 20.6.2011 in Petition No. 178/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and true up are the same, and they are as follows:-

**Asset-I**

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	174.61	184.51	195.14	206.33	218.09
As claimed by petitioner	174.61	184.51	195.14	206.33	218.09
Allowed after true up	174.61	184.51	195.14	206.33	218.09

**Asset-II**

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	886.00	936.00	990.00	1046.00	1106.00
As claimed by petitioner	886.00	936.00	990.00	1046.00	1106.00
Allowed after true up	886.00	936.00	990.00	1046.00	1106.00

**Interest on working capital("IWC")**

28. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission system and clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest of working capital.

29. The petitioner has submitted that the rate of interest on working capital has been considered as 12.25% as per clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in



accordance with Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations.

30. The Commission, vide order dated 20.6.2011 in Petition No. 178/2010, has approved rate of interest on working capital as 12.25% as applicable for 2008-09. In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to work out the interest on working capital in the instant case.

31. The IWC trued up is as under:-

#### Asset-I

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	26.19	27.68	29.27	30.95	32.71
O & M expenses	14.55	15.38	16.26	17.19	18.17
Receivables	167.89	112.65	112.57	112.14	112.33
Total	208.63	155.70	158.10	160.28	163.22
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
<b>Interest</b>	<b>25.56</b>	<b>19.07</b>	<b>19.37</b>	<b>19.63</b>	<b>19.99</b>

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	25.28	18.56	18.81	19.48	20.17
As claimed by petitioner	25.56	19.07	19.37	19.63	19.99
Allowed after true up	25.56	19.07	19.37	19.63	19.99



**Asset-II****(₹ in lakh)**

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	132.90	140.40	148.50	156.90	165.90
O & M expenses	73.83	78.00	82.50	87.17	92.17
Receivables	1054.84	589.88	594.61	599.70	608.79
Total	1261.57	808.28	825.61	843.77	866.86
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
<b>Interest</b>	<b>154.54</b>	<b>99.01</b>	<b>101.14</b>	<b>103.36</b>	<b>106.19</b>

**(₹ in lakh)**

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.6.2011	152.57	95.92	98.01	100.23	102.68
As claimed by petitioner	154.54	99.01	101.14	103.36	106.19
Allowed after true up	154.54	99.01	101.14	103.36	106.19

The variation in IWC is on account of increase in receivables due to variation in IOL and ROE during 2009-14 tariff period.

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

32. The detailed computation of the various components of the trued up annual fixed charges for Asset-I and Asset-II for the tariff period 2009-14 is summarised below:-

**Asset-I****(₹ in lakh)**

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Gross Block</b>					
Gross Opening Block	9051.09	9051.09	9051.09	9051.09	9051.09
Additional Capitalisation	0.00	0.00	0.00	0.00	38.97
Gross Closing Block	9051.09	9051.09	9051.09	9051.09	9090.06
Average Gross Block	9051.09	9051.09	9051.09	9051.09	9070.58
<b>Depreciation</b>					



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Rate of Depreciation (%)	5.288	1.758	1.758	1.758	1.765
Depreciable Value	8145.98	8145.98	8145.98	8145.98	8163.52
Elapsed Life (Beginning of the year)	11	12	13	14	15
Weighted Balance Useful life of the assets	23	22	21	20	19
Remaining Depreciable Value	3979.41	3500.81	3341.68	3182.55	3040.96
Depreciation	478.60	159.13	159.13	159.13	160.05
<b>Interest on Loan</b>					
Gross Normative Loan	8005.64	8005.64	8005.64	8005.64	8005.64
Cumulative Repayment upto Previous Year	6180.34	6658.94	6818.07	6977.20	7136.33
Net Loan-Opening	1825.30	1346.70	1187.57	1028.44	869.31
Additional Capitalisation	0.00	0.00	0.00	0.00	27.28
Repayment during the year	478.60	159.13	159.13	159.13	160.05
Net Loan-Closing	1346.70	1187.57	1028.44	869.31	736.54
Average Loan	1586.00	1267.13	1108.00	948.88	802.93
Weighted Average Rate of Interest on Loan (%)	8.4056	8.7450	8.9548	8.9738	8.6800
Interest	133.31	110.81	99.22	85.15	69.69
<b>Return on Equity</b>					
Opening Equity	1045.45	1045.45	1045.45	1045.45	1045.45
Additional Capitalisation	0.00	0.00	0.00	0.00	11.69
Closing Equity	1045.45	1045.45	1045.45	1045.45	1057.14
Average Equity	1045.45	1045.45	1045.45	1045.45	1051.30
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	195.23	202.38	202.58	202.58	206.16
<b>Interest on Working Capital</b>					
Maintenance Spares	26.19	27.68	29.27	30.95	32.71
O & M expenses	14.55	15.38	16.26	17.19	18.17
Receivables	167.89	112.65	112.57	112.14	112.33
Total	208.63	155.70	158.10	160.28	163.22
Interest	25.56	19.07	19.37	19.63	19.99
<b>Annual Transmission Charges</b>					
Depreciation	478.60	159.13	159.13	159.13	160.05



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Interest on Loan	133.31	110.81	99.22	85.15	69.69
Return on Equity	195.23	202.38	202.58	202.58	206.16
Interest on Working Capital	25.56	19.07	19.37	19.63	19.99
O & M Expenses	174.61	184.51	195.14	206.33	218.09
<b>Total</b>	<b>1007.31</b>	<b>675.90</b>	<b>675.43</b>	<b>672.81</b>	<b>673.98</b>

## Asset-II

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Gross Block</b>					
Gross Opening Block	69107.40	69107.40	69107.40	69107.40	69107.40
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross Closing Block	69107.40	69107.40	69107.40	69107.40	69107.40
Average Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
<b>Depreciation</b>					
Rate of Depreciation (%)	5.205	1.207	1.207	1.207	1.207
Depreciable Value	62145.89	62145.89	62145.89	62145.89	62145.89
Elapsed Life (Beginning of the year)	11	12	13	14	15
Weighted Balance Useful life of the assets	14	13	12	11	10
Remaining Depreciable Value	14443.84	10846.85	10012.47	9178.10	8343.73
Depreciation	3596.99	834.37	834.37	834.37	834.37
Cumulative Depreciation	51299.04	52133.41	52967.79	53802.16	54636.53
<b>Interest on Loan</b>					
Gross Normative Loan	61190.28	61190.28	61190.28	61190.28	61190.28
Cumulative Repayment upto Previous Year	52996.26	56593.25	57427.62	58262.00	59096.37
Net Loan-Opening	8194.02	4597.03	3762.65	2928.28	2093.91
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Repayment during the year	3596.99	834.37	834.37	834.37	834.37
Net Loan-Closing	4597.03	3762.65	2928.28	2093.91	1259.53
Average Loan	6395.52	4179.84	3345.47	2511.09	1676.72
Weighted Average Rate of Interest on Loan (%)	3.3314	3.2845	3.2304	3.2000	3.2000
Interest	213.06	137.29	108.07	80.36	53.66



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Return on Equity</b>					
Opening Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Average Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax ) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	1478.44	1532.60	1534.10	1534.10	1552.55
<b>Interest on Working Capital</b>					
Maintenance Spares	132.90	140.40	148.50	156.90	165.90
O & M expenses	73.83	78.00	82.50	87.17	92.17
Receivables	1054.84	589.88	594.61	599.70	608.79
Total	1261.57	808.28	825.61	843.77	866.86
Interest	154.54	99.01	101.14	103.36	106.19
<b>Annual Transmission Charges</b>					
Depreciation	3596.99	834.37	834.37	834.37	834.37
Interest on Loan	213.06	137.29	108.07	80.36	53.66
Return on Equity	1478.44	1532.60	1534.10	1534.10	1552.55
Interest on Working Capital	154.54	99.01	101.14	103.36	106.19
O & M Expenses	886.00	936.00	990.00	1046.00	1106.00
<b>Total</b>	<b>6329.03</b>	<b>3539.27</b>	<b>3567.68</b>	<b>3598.19</b>	<b>3652.77</b>

## **DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19**

### **TARIFF PERIOD**

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





**Asset-I****(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	161.02	161.02	161.02	161.02	161.03
Interest on Loan	56.94	42.97	28.99	15.01	4.01
Return on equity	207.31	207.31	207.31	207.31	207.31
Interest on Working Capital	20.80	20.85	20.91	20.98	21.13
O & M Expenses	199.38	206.11	212.98	219.99	227.32
<b>Total</b>	<b>645.45</b>	<b>638.26</b>	<b>631.21</b>	<b>624.31</b>	<b>620.80</b>

**Asset-II****(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	834.37	834.37	834.37	834.37	834.37
Interest on Loan	26.96	6.80	0.00	0.00	0.00
Return on equity	1552.55	1552.55	1552.55	1552.55	1552.55
Interest on Working Capital	119.42	124.37	129.96	136.26	143.00
O & M Expenses	1156.00	1254.00	1358.00	1472.00	1594.00
<b>Total</b>	<b>3689.30</b>	<b>3772.09</b>	<b>3874.88</b>	<b>3995.18</b>	<b>4123.92</b>

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

**Asset-I****(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	29.91	30.92	31.95	33.00	34.10
O & M expenses	16.62	17.18	17.75	18.33	18.94
Receivables	107.58	106.38	105.20	104.05	103.47
Total	154.11	154.48	154.90	155.38	156.51
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>20.80</b>	<b>20.85</b>	<b>20.91</b>	<b>20.98</b>	<b>21.13</b>



## Asset-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	173.40	188.10	203.70	220.80	239.10
O & M expenses	96.33	104.50	113.17	122.67	132.83
Receivables	614.88	628.68	645.81	665.86	687.32
Total	884.62	921.28	962.68	1009.33	1059.25
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>119.42</b>	<b>124.37</b>	<b>129.96</b>	<b>136.26</b>	<b>143.00</b>

## Capital Cost

35. Clause (1) & (3) of Regulation 9 of the 2014 Tariff Regulations specify as follows:-

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

“(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.”

36. The petitioner has claimed capital expenditure of ₹9090.06lakh for Asset-I and ₹69107.40 lakh for Asset-II as on 31.3.2014 which is in line with aforesaid Regulations and no additional capitalization for tariff period 2014-19 for Asset-I and Asset-II. The trued up capital cost of ₹9090.06 lakh for Asset-I and ₹69107.40 lakh for Asset-II as on 31.3.2014 is considered to workout tariff for tariff period 2014-19.



### **Additional Capital Expenditure**

37. The petitioner has not projected any additional capitalization for Asset-I and Asset-II for the tariff period 2014-19. Accordingly, no additional capital expenditure has been considered for the tariff period 2014-19.

### **Debt:Equity Ratio**

38. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

“(3) In case of the generating station and the transmission 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.”

39. The petitioner has considered debt:equity ratio as 88.37:11.63 for Asset-I and 88.54:11.46 for Asset-II as on 31.3.2014. The admitted debt:equity ratio of 88.37:11.63 for Asset-I and 88.54:11.46 for Asset-II after true-up for the tariff period ending on 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. Further, as there is no additional capitalization for Asset-I and Asset-II, debt:equity ratio for Asset-I and Asset-II will remain the same on 31.3.2019. The details of the debt:equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

#### **Asset-I**

Particulars	Amount (₹ in lakh)	(%)
Debt	8032.92	88.37
Equity	1057.14	11.63
<b>Total</b>	<b>9090.06</b>	<b>100.00</b>



## Asset-II

Particulars	Amount (₹ in lakh)	(%)
Debt	61190.28	88.54
Equity	7917.13	11.46
<b>Total</b>	<b>69107.40</b>	<b>100.00</b>

### Interest on Loan (“IOL”)

40. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

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

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

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

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

41. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2014. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-III** and **Annexure-IV** for Asset-I and Asset-II, respectively, and the IOL has been worked out and allowed as follows:-



**Asset-I****(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	8032.92	8032.92	8032.92	8032.92	8032.92
Cumulative Repayment upto previous year	7296.38	7457.40	7618.43	7779.45	7940.48
Net Loan-Opening	736.54	575.52	414.49	253.47	92.44
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	161.02	161.02	161.02	161.02	92.44
Net Loan-Closing	575.52	414.49	253.47	92.44	0.00
Average Loan	656.03	495.00	333.98	172.96	46.22
Rate of Interest (%)	8.6800	8.6800	8.6800	8.6800	8.6800
<b>Interest</b>	56.94	42.97	28.99	15.01	4.01

**Asset-II****(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	61190.28	61190.28	61190.28	61190.28	61190.28
Cumulative Repayment upto previous year	59930.74	60765.11	61190.27	61190.27	61190.27
Net Loan-Opening	1259.53	425.16	0.00	0.00	0.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	834.37	425.16	0.00	0.00	0.00
Net Loan-Closing	425.16	0.00	0.00	0.00	0.00
Average Loan	842.35	212.58	0.00	0.00	0.00
Rate of Interest (%)	3.2000	3.2000	3.2000	3.2000	3.2000
<b>Interest</b>	26.96	6.80	0.00	0.00	0.00

**Return on Equity (“ROE”)**

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

**“24. Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.  
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system”



**“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 computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

44. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

45. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on



equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE determined by the Commission for Asset-I and Asset-II is given below:-

#### Asset-I

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Average Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>207.31</b>	<b>207.31</b>	<b>207.31</b>	<b>207.31</b>	<b>207.31</b>

#### Asset-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Average Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Return on Equity (Base Rate)(%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>1552.55</b>	<b>1552.55</b>	<b>1552.55</b>	<b>1552.55</b>	<b>1552.55</b>



## **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. As both Asset-I and Asset-II have already completed 12 years in 2009-10, the depreciation for 2014-19 has been calculated based on remaining depreciable value to be recovered over balance useful life in accordance with Regulation 27 of the 2014 Tariff Regulations. The petitioner has computed depreciation considering capital expenditure of ₹9090.06 lakh for Asset-I and ₹69107.40 lakh for Asset-II as on 31.3.2014 and no additional capitalization during 2014-19 tariff period.





48. Depreciation is allowed in accordance with the Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed for Asset-I and Asset-II is given hereunder:-

#### Asset-I

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	9090.06	9090.06	9090.06	9090.06	9090.06
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross block at the end of the year	9090.06	9090.06	9090.06	9090.06	9090.06
Average gross block	9090.06	9090.06	9090.06	9090.06	9090.06
Rate of Depreciation (%)	1.771	1.771	1.771	1.771	1.771
Depreciable Value	8181.05	8181.05	8181.05	8181.05	8181.05
Elapsed Life of the assets at beginning of the year	16	17	18	19	20
Weighted Balance Useful life of the assets	18	17	16	15	14
Remaining Depreciable Value	2898.45	2737.42	2576.40	2415.37	2254.35
<b>Depreciation</b>	<b>161.02</b>	<b>161.02</b>	<b>161.02</b>	<b>161.02</b>	<b>161.02</b>

#### Asset-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	69107.40	69107.40	69107.40	69107.40	69107.40
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross block at the end of the year	69107.40	69107.40	69107.40	69107.40	69107.40
Average gross block	69107.40	69107.40	69107.40	69107.40	69107.40
Freehold Land	56.42	56.42	56.42	56.42	56.42
Rate of Depreciation (%)	1.207	1.207	1.207	1.207	1.207
Depreciable Value	62145.88	62145.88	62145.88	62145.88	62145.88
Elapsed Life of the assets at beginning of the year	16	17	18	19	20
Weighted Balance Useful life of the assets	9	8	7	6	5
Remaining Depreciable Value	7509.35	6674.98	5840.61	5006.23	4171.86
<b>Depreciation</b>	<b>834.37</b>	<b>834.37</b>	<b>834.37</b>	<b>834.37</b>	<b>834.37</b>



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

49. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M expenses for Asset-I and Asset-II have been worked out as given hereunder:-

### **Asset-I**

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expense for line</b>					
<b>Norm (₹ lakh/km)</b>					
Single Circuit (Twin and Triple Conductor)	0.404	0.418	0.432	0.446	0.461
<b>Asset (km)</b>					
400 kV Ramagundam HYD-II transmission line	195.00	195.00	195.00	195.00	195.00
<b>Total O&amp;M Expense (line) (₹lakh)</b>	<b>78.78</b>	<b>81.51</b>	<b>84.24</b>	<b>86.97</b>	<b>89.90</b>
<b>O&amp;M Expense for Bay</b>					
<b>Norm (₹lakh/Bay)</b>					
400 kV	60.30	62.30	64.37	66.51	68.71
<b>Bays</b>					
400 kV	2	2	2	2	2
<b>Total O&amp;M expense(Bay)(₹lakh)</b>	<b>120.60</b>	<b>124.60</b>	<b>128.74</b>	<b>133.02</b>	<b>137.42</b>
<b>Total O&amp;M expense (Line and bays) (₹ lakh)</b>	<b>199.38</b>	<b>206.11</b>	<b>212.98</b>	<b>219.99</b>	<b>227.32</b>

### **Asset-II**

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Norm for HVDC back to back station at Bhadrawati (Per 500 MW)	578.00	627.00	679.00	736.00	797.00
500 MW	2	2	2	2	2
<b>Total O&amp;M expense (₹ lakh)</b>	<b>1156.00</b>	<b>1254.00</b>	<b>1358.00</b>	<b>1472.00</b>	<b>1594.00</b>



50. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company is due during 2014-19 and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

51. With respect to the revision in O&M norms, the Respondent No. 4 submitted that the Commission while determining the norms for 2014 Tariff Regulations has considered the submissions made by all the stakeholders and accordingly notified the O&M norms. TANGEDCO has further submitted that the norms determined by the Commission are in accordance with the guidance issued by the Central Electricity Authority and other authorities. The Commission in its Statement of Reasons for the 2014 Tariff Regulations has briefly discussed the issues raised by the utilities. Hence, there should not be any further increase in O&M norms as the norms allowed are on the higher side. Also, there cannot be any petition for invoking the power to relax the norms determined by the Commission. In response, the petitioner vide affidavit dated 29.12.2015 submitted that being a Central Public Sector Unit (CPSU), the scheme of wage revision is binding on the petitioner. However, the actual impact of wage hike (due w.e.f. 1.1.2017) has not been factored in fixation of normative O&M norms

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for tariff period 2014-19. Further, the petitioner submitted that in line with Regulation 19(f) (ii) of 2009 Tariff Regulations, norms for O&M expenses for the year 2009-10 were derived considering the impact of wage hike of the employees under PSUs.

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

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

**Asset-I**

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses Allowed</b>	<b>199.38</b>	<b>206.11</b>	<b>212.98</b>	<b>219.99</b>	<b>227.32</b>

**Asset-II**

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses Allowed</b>	<b>1156.00</b>	<b>1254.00</b>	<b>1358.00</b>	<b>1472.00</b>	<b>1594.00</b>

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

54. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify 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;”

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

56. 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 interest on working capital as determined by the Commission is shown in the table below:-

#### Asset-I

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	29.91	30.92	31.95	33.00	34.10
O & M expenses	16.62	17.18	17.75	18.33	18.94
Receivables	107.58	106.38	105.20	104.05	103.46
Total	154.10	154.47	154.90	155.38	156.50
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>20.80</b>	<b>20.85</b>	<b>20.91</b>	<b>20.98</b>	<b>21.13</b>

#### Asset-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	173.40	188.10	203.70	220.80	239.10
O & M expenses	96.33	104.50	113.17	122.67	132.83
Receivables	614.88	628.68	645.81	665.86	687.32
Total	884.62	921.28	962.68	1009.33	1059.25
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>119.42</b>	<b>124.37</b>	<b>129.96</b>	<b>136.26</b>	<b>143.00</b>



## Annual Transmission Charges

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

### Asset-I

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Opening Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
Average Gross Block	9090.06	9090.06	9090.06	9090.06	9090.06
<b>Depreciation</b>					
Rate of Depreciation	1.771	1.771	1.771	1.771	1.771
Depreciable Value	8181.05	8181.05	8181.05	8181.05	8181.05
Elapsed Life (Beginning of the year)	16	17	18	19	20
Weighted Balance Useful life of the assets	18	17	16	15	14
Remaining Depreciable Value	2898.45	2737.42	2576.40	2415.37	2254.35
Depreciation	161.02	161.02	161.02	161.02	161.02
<b>Interest on Loan</b>					
Gross Normative Loan	8032.92	8032.92	8032.92	8032.92	8032.92
Cumulative Repayment upto Previous Year	7296.38	7457.40	7618.43	7779.45	7940.48
Net Loan-Opening	736.54	575.52	414.49	253.47	92.44
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	161.02	161.02	161.02	161.02	92.44
Net Loan-Closing	575.52	414.49	253.47	92.44	0.00
Average Loan	656.03	495.00	333.98	172.96	46.22
Weighted Average Rate of Interest on Loan (%)	8.6800	8.6800	8.6800	8.6800	8.6800
Interest	56.94	42.97	28.99	15.01	4.01
<b>Return on Equity</b>					
Opening Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Additions	0.00	0.00	0.00	0.00	0.00



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Closing Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Average Equity	1057.14	1057.14	1057.14	1057.14	1057.14
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	207.31	207.31	207.31	207.31	207.31
<b>Interest on Working Capital</b>					
Maintenance Spares	29.91	30.92	31.95	33.00	34.10
O & M expenses	16.62	17.18	17.75	18.33	18.94
Receivables	107.58	106.38	105.20	104.05	103.46
Total	154.10	154.47	154.90	155.38	156.50
Interest	20.80	20.85	20.91	20.98	21.13
<b>Annual Transmission Charges</b>					
Depreciation	161.02	161.02	161.02	161.02	161.02
Interest on Loan	56.94	42.97	28.99	15.01	4.01
Return on Equity	207.31	207.31	207.31	207.31	207.31
Interest on Working Capital	20.80	20.85	20.91	20.98	21.13
O & M Expenses	199.38	206.11	212.98	219.99	227.32
<b>Total</b>	<b>645.46</b>	<b>638.26</b>	<b>631.21</b>	<b>624.31</b>	<b>620.79</b>

## Asset-II

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Opening Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
Average Gross Block	69107.40	69107.40	69107.40	69107.40	69107.40
<b>Depreciation</b>					
Rate of Depreciation (%)	1.207	1.207	1.207	1.207	1.207
Depreciable Value	62145.88	62145.88	62145.88	62145.88	62145.88
Elapsed Life (Beginning of the year)	16	17	18	19	20
Weighted Balance Useful life of the assets	9	8	7	6	5
Remaining Depreciable	7509.35	6674.98	5840.61	5006.23	4171.86



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Value					
Depreciation	834.37	834.37	834.37	834.37	834.37
Cumulative Depreciation	55470.90	56305.28	57139.65	57974.02	58808.39
<b>Interest on Loan</b>					
Gross Normative Loan	61190.28	61190.28	61190.28	61190.28	61190.28
Cumulative Repayment upto Previous Year	59930.74	60765.11	61190.27	61190.27	61190.27
Net Loan-Opening	1259.53	425.16	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	834.37	425.16	0.00	0.00	0.00
Net Loan-Closing	425.16	0.00	0.00	0.00	0.00
Average Loan	842.35	212.58	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)	3.2000	3.2000	3.2000	3.2000	3.2000
Interest	26.96	6.80	0.00	0.00	0.00
<b>Return on Equity</b>					
Opening Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Average Equity	7917.13	7917.13	7917.13	7917.13	7917.13
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	1552.55	1552.55	1552.55	1552.55	1552.55
<b>Interest on Working Capital</b>					
Maintenance Spares	173.40	188.10	203.70	220.80	239.10
O & M expenses	96.33	104.50	113.17	122.67	132.83
Receivables	614.88	628.68	645.81	665.86	687.32
Total	884.62	921.28	962.68	1009.33	1059.25
Interest	119.42	124.37	129.96	136.26	143.00
<b>Annual Transmission Charges</b>					
Depreciation	834.37	834.37	834.37	834.37	834.37
Interest on Loan	26.96	6.80	0.00	0.00	0.00
Return on Equity	1552.55	1552.55	1552.55	1552.55	1552.55





<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Interest on Working Capital	119.42	124.37	129.96	136.26	143.00
O & M Expenses	1156.00	1254.00	1358.00	1472.00	1594.00
<b>Total</b>	<b>3689.30</b>	<b>3772.10</b>	<b>3874.88</b>	<b>3995.18</b>	<b>4123.92</b>

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

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

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

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

### **Service Tax**

60. The petitioner has sought to recover Service Tax on Transmission Charges separately from the Respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature.



### **Deferred Tax Liability**

61. 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 under Regulation 49 of the 2014 Tariff Regulations. The deferred tax liability shall be dealt as per Regulation 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 materializes, directly from the beneficiaries or long term transmission customers /DICs.

### **Foreign Exchange Rate Variation**

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

### **Sharing of Transmission Charges**

63. 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.



64. This Order disposes of Petition No. 493/TT/2014.

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

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



**ANNEXURE-I****Asset-I****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (₹ in lakh)**

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2009	Additions during the tariff period	Total
<b>IBRD I-DOCO-44.31</b>	8.4056	4016.70	0.00	4016.70
Total		4016.70	0.00	4016.70

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2009-14****(₹ in lakh)**

Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	4016.70	4016.70	4016.70	4016.70	4016.70
Cumulative Repayment of loan upto previous year	2424.21	2734.35	3067.95	3426.75	3812.75
Net Loan Opening	1592.49	1282.35	948.75	589.95	203.95
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	310.14	333.60	358.80	386.00	203.95
Net Loan Closing	1282.35	948.75	589.95	203.95	0.00
Average Loan	1437.42	1115.55	769.35	396.95	101.98
Interest	120.82	97.55	68.89	35.62	8.85
Weighted Average Rate of Interest (%)	8.4056	8.7450	8.9548	8.9738	8.6800



**ANNEXURE-II****Asset-II****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO****(₹ in lakh)**

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2009	Additions during the tariff period	Total
BOND VI-DOCO	13.13	564.00	0.00	564.00
BOND XI-OPTION-II-DOCO	9.20	1127.00	0.00	1127.00
BOND V-DOCO	15.80	2034.00	0.00	2034.00
INDIAN OVERSEAS BANK-DOCO	12.00	3597.65	0.00	3597.65
WMB-I replaced with Bank of Baroda-London-DOCO DRAWAL ON 1 OCT 1997 81.26	5.50	30668.34	0.00	30668.34
CREDIT NATIONAL (NatexisBanque)-DOCO-8.2749	3.20	13168.34	0.00	13168.34
Credit Agricole-I & II (Bank Indo Suez)- DOCO DRAWAL ON 1-OCT-1997-8.2749	8.05	13356.02	0.00	13356.02
BOND IV Tr.-II-DOCO DRAWAL ON 1 OCT 1997	17.50	2105.00	0.00	2105.00
Total		66620.35	0.00	66620.35

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2009-14****(₹ in lakh)**

Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	66620.35	66620.35	66620.35	66620.35	66620.35
Cumulative Repayment of loan upto previous year	55604.39	56319.23	57034.07	57748.91	58407.35
Net Loan Opening	11015.96	10301.12	9586.28	8871.44	8213.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	714.84	714.84	714.84	658.44	658.44
Net Loan Closing	10301.12	9586.28	8871.44	8213.00	7554.56
Average Loan	10658.54	9943.70	9228.86	8542.22	7883.78



Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
Interest	355.08	326.60	298.12	273.35	252.28
Weighted Average Rate of Interest (%)	3.3314	3.2845	3.2304	3.2000	3.2000

### **ANNEXURE-III**

#### **Asset-I**

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

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
IBRD I-DOCO-44.31	8.6800	4016.70	0.00	4016.70
Total		4016.70	0.00	4016.70

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	4016.70	4016.70	4016.70	4016.70	4016.70
Cumulative Repayment of loan upto previous year	4016.70	4016.70	4016.70	4016.70	4016.70
Net Loan Opening	0.00	0.00	0.00	0.00	0.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00	0.00
Net Loan Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Rate of Interest (%)	8.6800	8.6800	8.6800	8.6800	8.6800
Interest	0.00	0.00	0.00	0.00	0.00



**ANNEXURE-IV****Asset-II****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO****(₹ in lakh)**

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND VI-DOCO	13.13	564.00	0.00	564.00
BOND XI-OPTION-II-DOCO	9.20	1127.00	0.00	1127.00
BOND V-DOCO	15.80	2034.00	0.00	2034.00
INDIAN OVERSEAS BANK-DOCO	12.00	3597.65	0.00	3597.65
WMB-I replaced with Bank of Baroda-London-DOCO DRAWAL ON 1 OCT 1997 81.26	5.50	30668.34	0.00	30668.34
CREDIT NATIONAL (Natexis Banque)-DOCO-8.2749	3.20	13168.34	0.00	13168.34
Credit Agricole-I & II (Bank Indo Suez)- DOCO DRAWAL ON 1-OCT-1997-8.2749	8.05	13356.02	0.00	13356.02
BOND IV Tr.-II-DOCO DRAWAL ON 1 OCT 1997	17.50	2105.00	0.00	2105.00
Total		66620.35	0.00	66620.35

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19****(₹ in lakh)**

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	66620.35	66620.35	66620.35	66620.35	66620.35
Cumulative Repayment of loan upto previous year	59065.79	59724.23	60382.67	61041.11	61699.55
Net Loan Opening	7554.56	6896.12	6237.68	5579.24	4920.80
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	658.44	658.44	658.44	658.44	658.44
Net Loan Closing	6896.12	6237.68	5579.24	4920.80	4262.36
Average Loan	7225.34	6566.90	5908.46	5250.02	4591.58
Rate of Interest (%)	3.2000	3.2000	3.2000	3.2000	3.2000
Interest	231.21	210.14	189.07	168.00	146.93

