

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO. 367/TT/2014**

**Coram:**

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

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

**Date of Hearing: 16.11.2015**

**Date of Order : 26.11.2015**

**In the Matter of:**

Approval under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014 for determination of (i) truing up transmission tariff for 2009-14 tariff block and (ii) transmission tariff for 2014-19 tariff block for (a) LILO of both circuit of 400kV D/C, Gazuwaka-Vijayawada line at Vemagiri and (b) Extension of 400/220 kV substation at Vijayawada under System Strengthening-VI of Southern Region Grid in Southern Region

**And in the Matter of:**

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

**.....Petitioner**

**Versus**

1. Karnataka Power Transmission Corporation Limited,  
(KPTCL), Kaveri Bhawan, Bangalore – 560009
2. Transmission Corporation of Andhra Pradesh Limited,  
(APTRANSCO), Vidyut Soudha,  
Hyderabad- 500082
3. Kerala State Electricity Board (KSEB),  
Vaidyuthi Bhavanam,  
Pattom, Thiruvananthapuram - 695 004



4. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO),  
(Formerly Tamil Nadu Electricity Board - TNEB),  
NPKRR Maaligai, 800, Anna Salai,  
Chennai - 600 002
5. Electricity Department, Government of Goa,  
Vidyuti Bhawan, Panaji, Goa - 403001
6. Electricity Department, Govt. of Pondicherry,  
Pondicherry - 605001
7. Eastern Power Distribution Company of Andhra Pradesh Limited,  
(APEPDCL) P&T Colony, Seethmmadhara,  
Vishakhapatnam, Andhra Pradesh
8. Southern Power Distribution Company of Andhra Pradesh Limited,  
(APSPDCL), Srinivasasa Kalyana Mandapam Backside,  
Tiruchanoor Road, Kesavayana Gunta,  
Tirupati-517 501, Chittoor District, Andhra Pradesh
9. Central Power Distribution Company of Andhra Pradesh Limited,  
(APCPDCL), Corporate Office, Mint Compound,  
Hyderabad - 500 063, Andhra Pradesh
10. Northern Power Distribution Company of Andhra Pradesh Limited,  
(APNPDCL), Opp. NIT Petrol Pump,  
Chaitanyapuri, Kazipet, Warangal - 506 004, Andhra Pradesh
11. Bangalore Electricity Supply Company Ltd. (BESCOM),  
Corporate Office, KR.Circle  
Bangalore - 560001, Karnataka
12. Gulbarga Electricity Supply Company Ltd (GESCOM)  
Station Main Road, Gulbarga, Karnataka
13. Hubli Electricity Supply Company Ltd, (HESCOM)  
Navanagar, PB Road, Hubli, Karnataka
14. MESCOM Corporate Office,  
Paradigm Plaza, AB Shetty Circle,  
Mangalore – 575001, Karnataka



15. Chamundeswari Electricity Supply Corporation Ltd.,  
(CESC), # 927, L J Avenue, Ground Floor,  
New Kantharaj Urs Road, Saraswatipuram,  
MYSORE - 570 009, Karnataka

16. IL&FS Tamil Nadu power Company Ltd.,  
B-Block, 4<sup>th</sup> Floor, Navin`s Presidium,  
103, Nelson Manickam Road, Aminjikaral,  
Chennai, Tamil Nadu - 600029

17. PEL Power Limited,  
8-2-293/A/76. Road No. 9A, Jubilee Hills,  
Hyderabad, Andhra Pradesh-500033

....Respondent(s)

The following were present:

For Petitioner: Shri. Rakesh Prasad, PGCIL  
Shri. S. K. Venkatesan, PGCIL  
Shri. M. M. Mondal, PGCIL  
Shri. Shashi Bhushan, PGCIL  
Shri. Ved Prakash Rastogi, PGCIL  
Shri. S. K. Niranjana, PGCIL  
Shri. Jasbir Singh, PGCIL  
Shri. S. S. Raju, PGCIL

For Respondents: Shri. Vallinayagam, Advocate, TANGEDCO

### **ORDER**

The petition has been preferred by Power Grid Corporation of India Limited (“the petitioner”), a transmission licensee, for revision of tariff under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on true up of capital expenditure for the period 1.4.2009 to 31.3.2014 and for

determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019 in respect of (a) LILO of both circuit of 400kV D/C Gazuwaka-Vijayawada line at Vemagiri (DOCO: 1.4.2008) (hereinafter referred to as “the transmission Asset I”) and (b) Extension of 400/220 kV substation at Vijayawada (hereinafter referred to as “ the transmission Asset II”) under System Strengthening-VI of Southern Region Grid in Southern Region.

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

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

a) The administrative approval and expenditure sanction for the transmission scheme was accorded by Board of Directors of the petitioner’s company vide Memorandum dated 30.3.2005, read with corrigendum dated 21.4.2005 at an estimated cost of ₹11373 lakh, which included IDC of ₹520 lakh. Subsequently, the Board of Directors of the petitioner company accorded approval for Revised Cost Estimate of ₹12684 lakh, including IDC of ₹713 lakh vide Memorandum dated 20.10.2008. The transmission Asset I and II were put under commercial operation on 1.4.2008.

b) The Commission vide its order dated 8.4.2010 in Petition No. 329/2009 had approved the capital cost of ₹12380.66 lakh as on 31.3.2009 after accounting for the additional capitalization upto 31.3.2009.

c) The petitioner had approached the Commission vide Petition No. 202/2010 for determination of tariff for 2009-14 tariff period *inter-alia*

requested to consider the additional capitalization on account of estimated un-discharged liabilities incurred after 31.3.2009 in accordance with the 2009 Tariff Regulations. The Commission vide its order dated 25.2.2011, had determined the tariff for the transmission Asset I and transmission Asset II separately for tariff period 2009-14, based on admitted capital cost of ₹12380.66 lakh as on 31.3.2009 and estimated additional capitalization of ₹24.36 lakh for 2009-10 and ₹61.90 lakh for 2010-11 towards balance/retention payments, as given below:-

(₹ in lakh)

Particulars	Asset I				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	555.85	557.49	559.12	559.12	559.12
Interest on Loan	653.07	601.98	550.70	497.17	443.67
Return on Equity	552.10	553.72	555.34	555.34	555.34
Interest on Working Capital	39.14	38.29	37.43	36.48	35.52
O & M Expenses	48.80	51.61	54.56	57.68	60.95
<b>Total</b>	<b>1848.96</b>	<b>1803.09</b>	<b>1757.15</b>	<b>1705.79</b>	<b>1654.60</b>

(₹ in lakh)

Particulars	Asset II				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	98.49	99.13	99.13	99.13	99.13
Interest on Loan	113.93	105.35	95.90	86.43	76.98
Return on Equity	97.82	98.46	98.46	98.46	98.46
Interest on Working Capital	10.92	11.02	11.10	11.18	11.29
O & M Expenses	89.08	94.18	99.57	105.26	111.28
<b>Total</b>	<b>410.24</b>	<b>408.14</b>	<b>404.16</b>	<b>400.46</b>	<b>397.14</b>

4. As per Regulation 6 of the 2009 Tariff Regulations, the Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up. Further, as per Regulation 15 of the 2009

Tariff Regulations, the petitioner is required to adjust the yearly impact of MAT rate in the truing up petition for 2009-14 tariff period. The petitioner had submitted that in case Interest on Loan (IoL) was calculated on basis of prevailing rates for the determination of tariff, any change in the rate of interest subsequently during the tariff period will be considered at the time of truing up.

5. 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. In response to the instant petition, TANGEDCO (hereinafter referred to as "Respondent No. 4") has submitted a counter affidavit through its letter dated 2.2.2015. The petitioner has filed its rejoinder vide affidavit dated 13.11.2015 in response to the submissions made by Respondent No. 4. No comments/objections have been received from the public in response to the notice published in newspaper. The hearing in this matter was held on 16.11.2015. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

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

6. 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 auditor".



7. 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**

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

“Provided that in case of the existing projects, the capital cost admitted by the Commission prior to 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”.

9. The capital cost of ₹12380.66 lakh admitted by the Commission as on 31.3.2009 has been considered as opening capital cost as on 1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations.

### **Additional Capital Expenditure**

10. 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...”

11. Further, Clause (3) of Regulation 9 of 2014 Tariff Regulation provides that:-

“(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;”

12. The petitioner has submitted that it has incurred an additional capital expenditure of ₹26.49 lakh in 2009-10 and ₹103.62 lakh in 2010-11 towards balance/retention payments as depicted below:-

(₹ in lakh)

Particulars	Capital cost as admitted on 31.3.2009	Additional Capital Expenditure (During 2009-14)			Capital cost as on 31.3.2014
		2009-10	2010-11	2011-14	
<b>Asset-I</b> Transmission Line	10527.54	2.13	99.43	-	10629.10
<b>Asset-II</b> Substation	1853.12	24.36	4.19	-	1881.67
<b>Total</b>	<b>12380.66</b>	<b>26.49</b>	<b>103.62</b>	-	<b>12510.77</b>

13. TANGEDCO, Respondent No. 4 in its reply has made the following submissions:-

a) The petitioner has claimed total additional capitalisation of ₹26.49 lakh and ₹103.62 lakh instead of ₹24.36 lakh and ₹61.90 lakh for 2009-10 and 2010-11 respectively, as approved by the Commission vide order 25.2.2011 in Petition No. 202/2010. The petitioner has not furnished any details and justification for the excess claim of ₹2.13 lakh and ₹41.72 lakh for 2009-10 and 2010-11 respectively which was not approved by the Commission. Due to the excess claim of the additional capital expenditure, there is an excess claim of transmission charges for ₹28.15 lakh for the 2009-14 tariff period.

b) The petitioner has claimed the tariff for 2014-19 tariff block based on the truing up claim and hence, it has resulted in excess claim of transmission charges for ₹40.06 lakh for 2014-19 block.

c) Since the additional capitalization is due to balance and retention payment for substation and transmission line, the petitioner should have disclosed the exact details of retention payment in the previous petition itself. Since there is no justification for the same, the respondent requests that the excess claim made by the petitioner may be negated.

14. The petitioner has furnished Auditor Certificate dated 22.7.2014 along with the petition towards the incurred additional capital expenditure. Further, the petitioner in its rejoinder dated 13.11.2015 has clarified that the difference in expenditure approved by the Commission is due to the estimated expenditure for additional capitalisation and actual expenditure during the year. The petitioner has also submitted that in case of Asset-I, there is a marginal difference of ₹2.13 lakh between estimated expenditure and actual expenditure, whereas for Asset-II there is a difference of ₹41.72 lakh which is due to the additional liability of service tax, which was under dispute with the contractor.

15. We have considered the submissions of the petitioner with regard to the actual capital expenditure during 2009-10 and 2010-11. Since the capital addition of ₹130.11 lakh is based on actual capital expenditure incurred and is within the original scope of work and the overall capital cost of the project is within the limits of the total approved capital cost, as per the revised cost estimate of ₹12684 lakh

vide Memorandum dated 20.10.2008, the same is allowed for the purpose of revision of tariff in accordance with Regulation 6 of the 2009 Tariff Regulations.

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

### **Debt: Equity**

17. 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.”

18. The debt:equity ratio of 70:30 admitted by the Commission vide order dated 8.4.2010 in Petition No. 329/2009 as on 31.3.2009 has been considered as on 1.4.2009 for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations.

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

	As on 31.3.2009	Additional Capital Expenditure during 2009-14	As on 31.3.2014	(in ₹ lakh) (%)
Debt	8666.46	91.08	3753.23	70.00
Equity	3714.20	39.03	8757.54	30.00
<b>Total</b>	<b>12380.66</b>	<b>130.11</b>	<b>12510.77</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

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

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

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

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

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

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

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

21. 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 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%

22. Regulation 15 of the 2009 Tariff Regulations provides for grossing up of ROE with the actual tax rate for the purpose of ROE. The petitioner has submitted that MAT rate was applicable during the various years of 2009-14 tariff period. The ROE has been worked out by considering year wise MAT rate submitted by the petitioner in accordance with Regulation 15 of the 2009 Tariff Regulations. The ROE allowed is as follows:-

(₹ in lakh)

Return on Equity	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 25.2.2011	649.92	652.18	653.80	653.80	653.80
Claimed by the petitioner	694.33	723.54	727.27	727.27	736.01
Allowed after true up in this order	694.32	723.55	727.26	727.26	736.03

### **Interest on Loan (“IoL”)**

23. 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 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”.

24. 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 at Annexure-1 the IoL worked out is as follows:-

(₹ in lakh)

<b>Interest on Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 25.2.2011	767.00	707.33	646.60	583.60	520.65
Claimed by the petitioner	767.07	708.80	649.30	586.08	522.92
Allowed after true up in this order	767.06	708.80	649.32	586.13	522.92

### **Depreciation**

25. Regulation 17 of the 2009 Tariff Regulations provides the methodology for working out depreciation. 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)

<b>Depreciation</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 25.2.2011	654.34	656.62	658.25	658.25	658.25
Claimed by the petitioner	654.40	657.83	660.57	660.57	660.57
Allowed after true up in this order	654.40	657.83	660.57	660.57	660.57

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

26. 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)

<b>Interest on Working Capital</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 25.2.2011	50.06	49.31	48.53	47.66	46.81
Claimed by the petitioner	50.99	50.86	50.17	49.29	48.62
Allowed after true up in this order	50.99	50.86	50.17	49.29	48.62

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

27. 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)

<b>O&amp;M Expenses</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Approved vide order dated 25.2.2011	137.88	145.79	154.13	162.94	172.23
Claimed by the petitioner	137.88	145.79	154.13	162.94	172.23
Allowed after true up in this order	137.88	145.79	154.13	162.94	172.23

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

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

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Depreciation</b>					
Opening Gross Block	12380.66	12407.15	12510.77	12510.77	12510.77
Additional Capitalisation	26.49	103.62	0.00	0.00	0.00
Closing Gross Block	12407.15	12510.77	12510.77	12510.77	12510.77
Average Gross Block	12393.91	12458.96	12510.77	12510.77	12510.77
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	11154.51	11224.98	11306.32	11259.69	11259.69
Balance Useful life of the asset	34.00	33.00	32.00	31.00	30.00
Elapsed Life	1.00	2.00	3.00	4.00	5.00
Remaining Depreciable Value	10826.34	10230.50	9619.29	8958.72	8298.15
Depreciation during the year	654.40	657.83	660.57	660.57	660.57
Cumulative depreciation (incl. of AAD)	982.57	1640.40	2300.97	2961.54	3622.11
<b>Interest on Loan</b>					
Gross Normative Loan	8666.46	8685.01	8757.54	8757.54	8757.54
Cumulative Repayment upto Previous Year	328.17	982.57	1640.40	2300.97	2961.54
Net Loan-Opening	8338.29	7702.44	7117.14	6456.57	5796.00
Additions	18.54	72.53	0.00	0.00	0.00
Repayment during the year	654.40	657.83	660.57	660.57	660.57
Net Loan-Closing	7702.44	7117.14	6456.57	5796.00	5135.43
Average Loan	8020.36	7409.79	6786.85	6126.28	5465.72
Weighted Average Rate of Interest on Loan (%)	9.5640	9.5657	9.5674	9.5674	9.5672
Interest on Loan	767.06	708.80	649.32	586.13	522.92
<b>Return on Equity</b>					
Opening Equity	3714.20	3722.15	3753.23	3753.23	3753.23
Additions	7.95	31.09	0.00	0.00	0.00
Closing Equity	3722.15	3753.23	3753.23	3753.23	3753.23
Average Equity	3718.17	3737.69	3753.23	3753.23	3753.23
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity(%)	18.674	19.358	19.377	19.377	19.610
Return on Equity	694.32	723.55	727.26	727.26	736.03
<b>Interest on Working Capital</b>					



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	11.49	12.14	12.84	13.57	14.35
Maintenance Spares	20.68	21.87	23.12	24.44	25.83
Receivables	384.11	381.14	373.58	364.36	356.73
Total	416.28	415.15	409.54	402.38	396.91
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
Interest on Working Capital	50.99	50.86	50.17	49.29	48.62
<b>Annual Transmission Charges</b>					
Depreciation	654.40	657.83	660.57	660.57	660.57
Interest on Loan	767.06	708.80	649.32	586.13	522.92
Return on Equity	694.32	723.55	727.26	727.26	736.03
Interest on Working Capital	50.99	50.86	50.17	49.29	48.62
O & M Expenses	137.88	145.79	154.13	162.94	172.23
Total	<b>2304.66</b>	<b>2286.83</b>	<b>2241.46</b>	<b>2186.19</b>	<b>2140.36</b>

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

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

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	660.57	660.57	660.57	660.57	660.57
Interest on Loan	459.76	396.6	333.44	270.28	207.11
Return on Equity	736.01	736.01	736.01	736.01	736.01
Interest on Working Capital	51.43	50.27	49.11	47.97	46.83
O & M Expenses	157.54	162.81	168.2	173.77	179.55
<b>Total</b>	<b>2065.31</b>	<b>2006.26</b>	<b>1947.33</b>	<b>1888.6</b>	<b>1830.07</b>

#### **Capital Cost**

30. 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;”

31. The capital cost of ₹12510.77 lakh admitted by the Commission as on 31.3.2014 has been considered as opening capital cost as on 1.4.2014 for determination of tariff in accordance with Regulation 9 of the 2014 Tariff Regulations.

### **Additional Capital Expenditure**

32. The petitioner has not claimed any additional capital expenditure during 2014-19 tariff period.

### **Debt: Equity**

33. 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.”

34. The petitioner has considered the debt: equity ratio of 70:30, which is in line with the 2014 Tariff Regulations, hence same is considered for calculation of tariff.

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

	Amount (in ₹ lakh)	(%)
Debt	8757.54	70.00
Equity	3753.23	30.00
<b>Total</b>	<b>12510.77</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

36. 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.”

37. It further provides that in case the generating company or transmission licensee paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of ROE. 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:-

(₹ in lakh)

Return on Equity	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	3753.23	3753.23	3753.23	3753.23	3753.23
Additions	-	-	-	-	-
Closing Equity	3753.23	3753.23	3753.23	3753.23	3753.23
Average Equity	3753.23	3753.23	3753.23	3753.23	3753.23
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	736.03	736.03	736.03	736.03	736.03

### **Interest on Loan (“IoL”)**

38. Clause 5 and 6 of Regulation 26 of 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.”

39. 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 at Annexure-2 and the IoL has been worked out and allowed as follows:-

	(₹ 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	8757.54	8757.54	8757.54	8757.54	8757.54
Cumulative Repayment upto Previous Year	3622.11	4282.68	4943.24	5603.81	6264.38
Net Loan-Opening	5135.43	4474.86	3814.29	3153.73	2493.16
Additions	-	-	-	-	-
Repayment during the year	660.57	660.57	660.57	660.57	660.57
Net Loan-Closing	4474.86	3814.29	3153.73	2493.16	1832.59
Average Loan	4805.15	4144.58	3484.01	2823.44	2162.87
Weighted Average Rate of Interest on Loan (%)	9.5681	9.5692	9.5706	9.5726	9.5756
Interest on Loan	459.76	396.60	333.44	270.28	207.11

### **Depreciation**

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

"27. Depreciation:

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

...

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

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

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

41. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2014 and accumulated depreciation up to 31.3.2014. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	12510.77	12510.77	12510.77	12510.77	12510.77
Additional Capitalisation	-	-	-	-	-
Closing Gross Block	12510.77	12510.77	12510.77	12510.77	12510.77
Average Gross Block	12510.77	12510.77	12510.77	12510.77	12510.77
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance Useful life of the asset	29.00	28.00	27.00	26.00	25.00
Remaining Depreciable Value	7637.59	6977.02	6316.45	5655.88	4995.31
Depreciation during the year	660.57	660.57	660.57	660.57	660.57

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

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

43. TANGEDCO has submitted that the 2014 Tariff Regulations do not provide for any revision in the normative O&M charges based on the actual. In response the petitioner has submitted that the norms for O&M Expenses for Transmission System as specified under Regulation 29 (3) (a) of the 2014 tariff regulations for 2014-19 has been arrived after considering (i) normalized actual O&M Expenses of the petitioner on its various projects in various regions during the year 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13. The petitioner has submitted that being a 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 the normative O&M rates prescribed for the 2014-19 tariff period.

44. We have considered the submissions of the petitioner and the respondents. 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 assets as per prevailing norms.

45. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specify the norms for O&M Expenses for the transmission system. The total allowable O&M Expenses for the instant assets allowed are as follows:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV Bays :</b>					
No. of Bays	1	1	1	1	1
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>220 kV Bays:</b>					
No. of Bays	1	1	1	1	1
Norms (₹ lakh/Bay)	42.21	43.61	45.06	46.55	48.10

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Line: D/C Twin/Triple Conductor:</b>					
Line Length (km)	77.84	77.84	77.84	77.84	77.84
Norms (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
<b>Total O&amp;M Expenses (₹ lakh)</b>	157.54	162.81	168.20	173.77	179.55

### **Interest on Working Capital**

46. 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;”

47. 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%.

48. 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:-

(₹ in lakh)

Interest on Working Capital	2014-15	2015-16	2016-17	2017-18	2018-19
O & M expenses	13.12	13.56	14.01	14.48	14.96
Maintenance Spares	23.63	24.42	25.23	26.07	26.93
Receivables	344.22	334.38	324.56	314.77	305.01
Total	380.98	372.36	363.80	355.31	346.90
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	51.43	50.27	49.11	47.97	46.83

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

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	12,510.77	12,510.77	12,510.77	12,510.77	12,510.77
Additional Capitalisation	-	-	-	-	-
Closing Gross Block	12,510.77	12,510.77	12,510.77	12,510.77	12,510.77
Average Gross Block	12,510.77	12,510.77	12,510.77	12,510.77	12,510.77
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Depreciable Value	11259.69	11259.69	11259.69	11259.69	11259.69
Elapsed Life	6	7	8	9	10
Balance Useful life of the asset	29	28	27	26	25
Remaining Depreciable Value	7,637.59	6,977.02	6,316.45	5,655.88	4,995.31
Depreciation	660.57	660.57	660.57	660.57	660.57
Cumulative depreciation (incl. of AAD)	4282.68	4943.24	5603.81	6264.38	6924.95
<b>Interest on Loan</b>					
Gross Normative Loan	8,757.54	8,757.54	8,757.54	8,757.54	8,757.54
Cumulative Repayment upto Previous Year	3,622.11	4,282.68	4,943.24	5,603.81	6,264.38
Net Loan-Opening	5,135.43	4,474.86	3,814.29	3,153.73	2,493.16
Additions	-	-	-	-	-
Repayment during the year	660.57	660.57	660.57	660.57	660.57
Net Loan-Closing	4,474.86	3,814.29	3,153.73	2,493.16	1,832.59
Average Loan	4,805.15	4,144.58	3,484.01	2,823.44	2,162.87
Weighted Average Rate of Interest on Loan (%)	9.5681	9.5692	9.5706	9.5726	9.5756
Interest	459.76	396.60	333.44	270.28	207.11



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Return on Equity</b>					
Opening Equity	3,753.23	3,753.23	3,753.23	3,753.23	3,753.23
Additions	-	-	-	-	-
Closing Equity	3,753.23	3,753.23	3,753.23	3,753.23	3,753.23
Average Equity	3,753.23	3,753.23	3,753.23	3,753.23	3,753.23
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	736.03	736.03	736.03	736.03	736.03
<b>Interest on Working Capital</b>					
O & M expenses	13.12	13.56	14.01	14.48	14.96
Maintenance Spares	23.63	24.42	25.23	26.07	26.93
Receivables	344.22	334.38	324.56	314.77	305.01
Total	380.98	372.36	363.80	355.31	346.90
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	51.43	50.27	49.11	47.97	46.83
<b>Annual Transmission Charges</b>					
Depreciation	660.57	660.57	660.57	660.57	660.57
Interest on Loan	459.76	396.60	333.44	270.28	207.11
Return on Equity	736.03	736.03	736.03	736.03	736.03
Interest on Working Capital	51.43	50.27	49.11	47.97	46.83
O & M Expenses	157.54	162.81	168.20	173.77	179.55
<b>Total</b>	<b>2,065.33</b>	<b>2,006.27</b>	<b>1,947.34</b>	<b>1,888.61</b>	<b>1,830.08</b>

### **Deferred Tax Liability**

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

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

51. 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**

52. 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**

53. 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**

54. 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.

55. This order disposes of Petition No. 367/TT/2014.

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

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



## Annexure-1

## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
					(₹ in lakh)
<b>BOND XX-DOCO-</b>					
Gross Opening Loan	700.00	700.00	700.00	700.00	700.00
Cumulative Repayments of Loans upto Previous Year		0.00	58.33	116.66	174.99
<b>Net Loans Opening</b>	<b>700.00</b>	<b>700.00</b>	<b>641.67</b>	<b>583.34</b>	<b>525.01</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year		58.33	58.33	58.33	58.33
<b>Net Closing Loan</b>	<b>700.00</b>	<b>641.67</b>	<b>583.34</b>	<b>525.01</b>	<b>466.68</b>
Average Net Loan	700.00	670.84	612.51	554.18	495.85
Rate of Interest on Loan (%)	8.93	8.93	8.93	8.93	8.93
<b>Interest on Loan</b>	<b>62.51</b>	<b>59.91</b>	<b>54.70</b>	<b>49.49</b>	<b>44.28</b>
<b>BOND XXI-DOCO-</b>					
Gross Opening Loan	636.00	636.00	636.00	636.00	636.00
Cumulative Repayments of Loans upto Previous Year		0.00	53.00	106.00	159.00
<b>Net Loans Opening</b>	<b>636.00</b>	<b>636.00</b>	<b>583.00</b>	<b>530.00</b>	<b>477.00</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year		53.00	53.00	53.00	53.00
<b>Net Closing Loan</b>	<b>636.00</b>	<b>583.00</b>	<b>530.00</b>	<b>477.00</b>	<b>424.00</b>
Average Net Loan	636.00	609.50	556.50	503.50	450.50
Rate of Interest on Loan (%)	8.73	8.73	8.73	8.73	8.73
<b>Interest on Loan</b>	<b>55.52</b>	<b>53.21</b>	<b>48.58</b>	<b>43.96</b>	<b>39.33</b>
<b>BOND XXII-DOCO-</b>					
Gross Opening Loan	661.00	661.00	661.00	661.00	661.00
Cumulative Repayments of Loans upto Previous Year		0.00	55.08	110.16	165.24
<b>Net Loans Opening</b>	<b>661.00</b>	<b>661.00</b>	<b>605.92</b>	<b>550.84</b>	<b>495.76</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year		55.08	55.08	55.08	55.08



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
					(₹ in lakh)
<b>Net Closing Loan</b>	<b>661.00</b>	<b>605.92</b>	<b>550.84</b>	<b>495.76</b>	<b>440.68</b>
Average Net Loan	661.00	633.46	578.38	523.30	468.22
Rate of Interest on Loan (%)	8.68	8.68	8.68	8.68	8.68
<b>Interest on Loan</b>	<b>57.37</b>	<b>54.98</b>	<b>50.20</b>	<b>45.42</b>	<b>40.64</b>
<b>BOND XXIV-DOCO-</b>					
Gross Opening Loan	2144.00	2144.00	2144.00	2144.00	2144.00
Cumulative Repayments of Loans upto Previous Year		0.00	178.67	357.34	536.01
<b>Net Loans Opening</b>	<b>2144.00</b>	<b>2144.00</b>	<b>1965.33</b>	<b>1786.66</b>	<b>1607.99</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year		178.67	178.67	178.67	178.67
<b>Net Closing Loan</b>	<b>2144.00</b>	<b>1965.33</b>	<b>1786.66</b>	<b>1607.99</b>	<b>1429.32</b>
Average Net Loan	2144.00	2054.67	1876.00	1697.33	1518.66
Rate of Interest on Loan (%)	9.95	9.95	9.95	9.95	9.95
<b>Interest on Loan</b>	<b>213.33</b>	<b>204.44</b>	<b>186.66</b>	<b>168.88</b>	<b>151.11</b>
<b>BOND XXV-DOCO-</b>					
Gross Opening Loan	2290.00	2290.00	2290.00	2290.00	2290.00
Cumulative Repayments of Loans upto Previous Year		0.00	0.00	190.83	381.66
<b>Net Loans Opening</b>	<b>2290.00</b>	<b>2290.00</b>	<b>2290.00</b>	<b>2099.17</b>	<b>1908.34</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year			190.83	190.83	190.83
<b>Net Closing Loan</b>	<b>2290.00</b>	<b>2290.00</b>	<b>2099.17</b>	<b>1908.34</b>	<b>1717.51</b>
Average Net Loan	2290.00	2290.00	2194.59	2003.76	1812.93
Rate of Interest on Loan (%)	10.10	10.10	10.10	10.10	10.10
<b>Interest on Loan</b>	<b>231.29</b>	<b>231.29</b>	<b>221.65</b>	<b>202.38</b>	<b>183.11</b>
<b>BOND XXVI-DOCO-</b>					
Gross Opening Loan	1258.00	1258.00	1258.00	1258.00	1258.00
Cumulative Repayments of Loans upto Previous Year		0.00	0.00	104.83	209.66
<b>Net Loans Opening</b>	<b>1258.00</b>	<b>1258.00</b>	<b>1258.00</b>	<b>1153.17</b>	<b>1048.34</b>
Add: Draw(s) during the Year					



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
					(₹ in lakh)
Less: Repayments of Loan during the year			104.83	104.83	104.83
<b>Net Closing Loan</b>	<b>1258.00</b>	<b>1258.00</b>	<b>1153.17</b>	<b>1048.34</b>	<b>943.51</b>
Average Net Loan	1258.00	1258.00	1205.59	1100.76	995.93
Rate of Interest on Loan (%)	9.30	9.30	9.30	9.30	9.30
<b>Interest on Loan</b>	<b>116.99</b>	<b>116.99</b>	<b>112.12</b>	<b>102.37</b>	<b>92.62</b>
<b>BOND XXVII-DOCO-</b>					
Gross Opening Loan	557.00	557.00	557.00	557.00	557.00
Cumulative Repayments of Loans upto Previous Year		0.00	0.00	46.42	92.84
<b>Net Loans Opening</b>	<b>557.00</b>	<b>557.00</b>	<b>557.00</b>	<b>510.58</b>	<b>464.16</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year			46.42	46.42	46.42
<b>Net Closing Loan</b>	<b>557.00</b>	<b>557.00</b>	<b>510.58</b>	<b>464.16</b>	<b>417.74</b>
Average Net Loan	557.00	557.00	533.79	487.37	440.95
Rate of Interest on Loan (%)	9.47	9.47	9.47	9.47	9.47
<b>Interest on Loan</b>	<b>52.75</b>	<b>52.75</b>	<b>50.55</b>	<b>46.15</b>	<b>41.76</b>
<b>BOND XXVIII-ADDCAP for 2008-2009 drawal on 29-sep-2008-</b>					
Gross Opening Loan	256.00	256.00	256.00	256.00	256.00
Cumulative Repayments of Loans upto Previous Year		0.00	0.00	21.33	21.33
<b>Net Loans Opening</b>	<b>256.00</b>	<b>256.00</b>	<b>256.00</b>	<b>234.67</b>	<b>234.67</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year			21.33	21.33	21.33
<b>Net Closing Loan</b>	<b>256.00</b>	<b>256.00</b>	<b>234.67</b>	<b>213.34</b>	<b>213.34</b>
Average Net Loan	256.00	256.00	245.34	224.01	224.01
Rate of Interest on Loan (%)	9.33	9.33	9.33	9.33	9.33
<b>Interest on Loan</b>	<b>23.88</b>	<b>23.88</b>	<b>22.89</b>	<b>20.90</b>	<b>20.90</b>
<b>BOND XXIX-ADDCAP FOR 2008-2009 DRAWAL ON 12-MAR-2009</b>					
Gross Opening Loan	144.00	144.00	144.00	144.00	144.00



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
					(₹ in lakh)
Cumulative Repayments of Loans upto Previous Year		0.00	0.00	0.00	12.00
<b>Net Loans Opening</b>	<b>144.00</b>	<b>144.00</b>	<b>144.00</b>	<b>144.00</b>	<b>132.00</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year				12.00	12.00
<b>Net Closing Loan</b>	<b>144.00</b>	<b>144.00</b>	<b>144.00</b>	<b>132.00</b>	<b>120.00</b>
Average Net Loan	144.00	144.00	144.00	138.00	126.00
Rate of Interest on Loan (%)	9.20	9.20	9.20	9.20	9.20
<b>Interest on Loan</b>	<b>13.25</b>	<b>13.25</b>	<b>13.25</b>	<b>12.70</b>	<b>11.59</b>
	0.00	0.00	0.00	0.00	0.00
<b>BOND XXXII-ADDCAP FOR 2010-2011 ADDCAP FOR 2010-2011-</b>					
Gross Opening Loan			43.33	43.33	43.33
Cumulative Repayments of Loans upto Previous Year		0.00	0.00	0.00	0.00
<b>Net Loans Opening</b>	<b>0.00</b>	<b>0.00</b>	<b>43.33</b>	<b>43.33</b>	<b>43.33</b>
Add: Draw(s) during the Year		43.33			
Less: Repayments of Loan during the year					3.61
<b>Net Closing Loan</b>	<b>0.00</b>	<b>43.33</b>	<b>43.33</b>	<b>43.33</b>	<b>39.72</b>
Average Net Loan	0.00	21.67	43.33	43.33	41.53
Rate of Interest on Loan (%)	8.84	8.84	8.84	8.84	8.84
<b>Interest on Loan</b>	<b>0.00</b>	<b>1.92</b>	<b>3.83</b>	<b>3.83</b>	<b>3.67</b>
<b>Summary</b>					
Gross Opening Loan	8646.00	8646.00	8689.33	8689.33	8689.33
Cumulative Repayments of Loans upto Previous Year		0.00	345.08	1053.57	1752.73
<b>Net Loans Opening</b>	<b>8646.00</b>	<b>8646.00</b>	<b>8344.25</b>	<b>7635.76</b>	<b>6936.60</b>
Add: Draw(s) during the Year	0.00	43.33	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	345.08	708.49	720.49	724.10
<b>Net Closing Loan</b>	<b>8646.00</b>	<b>8344.25</b>	<b>7635.76</b>	<b>6915.27</b>	<b>6212.50</b>
Average Net Loan	8646.00	8495.13	7990.01	7275.52	6574.55
Rate of Interest on Loan (%)	9.5640%	9.5657%	9.5674%	9.5674%	9.5672%
<b>Interest on Loan</b>	<b>826.90</b>	<b>812.62</b>	<b>764.43</b>	<b>696.08</b>	<b>629.00</b>



## CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
					(₹ in lakh)
<b>BOND XX-DOCO-</b>					
Gross Opening Loan	700.00	700.00	700.00	700.00	700.00
Cumulative Repayments of Loans upto Previous Year	233.32	291.65	349.98	408.31	466.64
<b>Net Loans Opening</b>	<b>466.68</b>	<b>408.35</b>	<b>350.02</b>	<b>291.69</b>	<b>233.36</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	58.33	58.33	58.33	58.33	58.33
<b>Net Closing Loan</b>	<b>408.35</b>	<b>350.02</b>	<b>291.69</b>	<b>233.36</b>	<b>175.03</b>
Average Net Loan	437.52	379.19	320.86	262.53	204.20
Rate of Interest on Loan (%)	8.93	8.93	8.93	8.93	8.93
<b>Interest on Loan</b>	<b>39.07</b>	<b>33.86</b>	<b>28.65</b>	<b>23.44</b>	<b>18.23</b>
<b>BOND XXI-DOCO-</b>					
Gross Opening Loan	636.00	636.00	636.00	636.00	636.00
Cumulative Repayments of Loans upto Previous Year	212.00	265.00	318.00	371.00	424.00
<b>Net Loans Opening</b>	<b>424.00</b>	<b>371.00</b>	<b>318.00</b>	<b>265.00</b>	<b>212.00</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	53.00	53.00	53.00	53.00	53.00
<b>Net Closing Loan</b>	<b>371.00</b>	<b>318.00</b>	<b>265.00</b>	<b>212.00</b>	<b>159.00</b>
Average Net Loan	397.50	344.50	291.50	238.50	185.50
Rate of Interest on Loan (%)	8.73	8.73	8.73	8.73	8.73
<b>Interest on Loan</b>	<b>34.70</b>	<b>30.07</b>	<b>25.45</b>	<b>20.82</b>	<b>16.19</b>
<b>BOND XXII-DOCO-</b>					
Gross Opening Loan	661.00	661.00	661.00	661.00	661.00
Cumulative Repayments of Loans upto Previous Year	220.32	275.40	330.48	385.56	440.64
<b>Net Loans Opening</b>	<b>440.68</b>	<b>385.60</b>	<b>330.52</b>	<b>275.44</b>	<b>220.36</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	55.08	55.08	55.08	55.08	55.08
<b>Net Closing Loan</b>	<b>385.60</b>	<b>330.52</b>	<b>275.44</b>	<b>220.36</b>	<b>165.28</b>
Average Net Loan	413.14	358.06	302.98	247.90	192.82
Rate of Interest on Loan (%)	8.68	8.68	8.68	8.68	8.68
<b>Interest on Loan</b>	<b>35.86</b>	<b>31.08</b>	<b>26.30</b>	<b>21.52</b>	<b>16.74</b>
<b>BOND XXIV-DOCO-</b>					

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
					(₹ in lakh)
Gross Opening Loan	2144.00	2144.00	2144.00	2144.00	2144.00
Cumulative Repayments of Loans upto Previous Year	714.68	893.35	1072.02	1250.69	1429.36
<b>Net Loans Opening</b>	<b>1429.32</b>	<b>1250.65</b>	<b>1071.98</b>	<b>893.31</b>	<b>714.64</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	178.67	178.67	178.67	178.67	178.67
<b>Net Closing Loan</b>	<b>1250.65</b>	<b>1071.98</b>	<b>893.31</b>	<b>714.64</b>	<b>535.97</b>
Average Net Loan	1339.99	1161.32	982.65	803.98	625.31
Rate of Interest on Loan (%)	9.95	9.95	9.95	9.95	9.95
<b>Interest on Loan</b>	<b>133.33</b>	<b>115.55</b>	<b>97.77</b>	<b>80.00</b>	<b>62.22</b>
<b>BOND XXV-DOCO-</b>					
Gross Opening Loan	2290.00	2290.00	2290.00	2290.00	2290.00
Cumulative Repayments of Loans upto Previous Year	572.49	763.32	954.15	1144.98	1335.81
<b>Net Loans Opening</b>	<b>1717.51</b>	<b>1526.68</b>	<b>1335.85</b>	<b>1145.02</b>	<b>954.19</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	190.83	190.83	190.83	190.83	190.83
<b>Net Closing Loan</b>	<b>1526.68</b>	<b>1335.85</b>	<b>1145.02</b>	<b>954.19</b>	<b>763.36</b>
Average Net Loan	1622.10	1431.27	1240.44	1049.61	858.78
Rate of Interest on Loan (%)	10.10	10.10	10.10	10.10	10.10
<b>Interest on Loan</b>	<b>163.83</b>	<b>144.56</b>	<b>125.28</b>	<b>106.01</b>	<b>86.74</b>
<b>BOND XXVI-DOCO-</b>					
Gross Opening Loan	1258.00	1258.00	1258.00	1258.00	1258.00
Cumulative Repayments of Loans upto Previous Year	314.49	419.32	524.15	628.98	733.81
<b>Net Loans Opening</b>	<b>943.51</b>	<b>838.68</b>	<b>733.85</b>	<b>629.02</b>	<b>524.19</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	104.83	104.83	104.83	104.83	104.83
<b>Net Closing Loan</b>	<b>838.68</b>	<b>733.85</b>	<b>629.02</b>	<b>524.19</b>	<b>419.36</b>
Average Net Loan	891.10	786.27	681.44	576.61	471.78
Rate of Interest on Loan (%)	9.30	9.30	9.30	9.30	9.30
<b>Interest on Loan</b>	<b>82.87</b>	<b>73.12</b>	<b>63.37</b>	<b>53.62</b>	<b>43.88</b>
<b>BOND XXVII-DOCO-</b>					
Gross Opening Loan	557.00	557.00	557.00	557.00	557.00
Cumulative Repayments of Loans upto Previous Year	139.26	185.68	232.10	278.52	324.94
<b>Net Loans Opening</b>	<b>417.74</b>	<b>371.32</b>	<b>324.90</b>	<b>278.48</b>	<b>232.06</b>
Add: Draw(s) during the Year					



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
					(₹ in lakh)
Less: Repayments of Loan during the year	46.42	46.42	46.42	46.42	46.42
<b>Net Closing Loan</b>	<b>371.32</b>	<b>324.90</b>	<b>278.48</b>	<b>232.06</b>	<b>185.64</b>
Average Net Loan	394.53	348.11	301.69	255.27	208.85
Rate of Interest on Loan (%)	9.47	9.47	9.47	9.47	9.47
<b>Interest on Loan</b>	<b>37.36</b>	<b>32.97</b>	<b>28.57</b>	<b>24.17</b>	<b>19.78</b>
<b>BOND XXVIII-ADDCAP for 2008-2009 drawal on 29-sep-2008-</b>					
Gross Opening Loan	256.00	256.00	256.00	256.00	256.00
Cumulative Repayments of Loans upto Previous Year	42.66	63.99	85.32	106.65	127.98
<b>Net Loans Opening</b>	<b>213.34</b>	<b>192.01</b>	<b>170.68</b>	<b>149.35</b>	<b>128.02</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	21.33	21.33	21.33	21.33	21.33
<b>Net Closing Loan</b>	<b>192.01</b>	<b>170.68</b>	<b>149.35</b>	<b>128.02</b>	<b>106.69</b>
Average Net Loan	202.68	181.35	160.02	138.69	117.36
Rate of Interest on Loan (%)	9.33	9.33	9.33	9.33	9.33
<b>Interest on Loan</b>	<b>18.91</b>	<b>16.92</b>	<b>14.93</b>	<b>12.94</b>	<b>10.95</b>
<b>BOND XXIX-ADDCAP FOR 2008-2009 DRAWAL ON 12-MAR-2009</b>					
Gross Opening Loan	144.00	144.00	144.00	144.00	144.00
Cumulative Repayments of Loans upto Previous Year	24.00	36.00	48.00	60.00	72.00
<b>Net Loans Opening</b>	<b>120.00</b>	<b>108.00</b>	<b>96.00</b>	<b>84.00</b>	<b>72.00</b>
Add: Draw(s) during the Year					
Less: Repayments of Loan during the year	12.00	12.00	12.00	12.00	12.00
<b>Net Closing Loan</b>	<b>108.00</b>	<b>96.00</b>	<b>84.00</b>	<b>72.00</b>	<b>60.00</b>
Average Net Loan	114.00	102.00	90.00	78.00	66.00
Rate of Interest on Loan (%)	9.20	9.20	9.20	9.20	9.20
<b>Interest on Loan</b>	<b>10.49</b>	<b>9.38</b>	<b>8.28</b>	<b>7.18</b>	<b>6.07</b>
	0.00	0.00	0.00	0.00	0.00
<b>BOND XXXII-ADDCAP FOR 2010-2011 ADDCAP FOR 2010-2011-</b>					
Gross Opening Loan	43.33	43.33	43.33	43.33	43.33
Cumulative Repayments of Loans upto Previous Year	3.61	7.22	10.83	14.44	18.05
<b>Net Loans Opening</b>	<b>39.72</b>	<b>36.11</b>	<b>32.50</b>	<b>28.89</b>	<b>25.28</b>
Add: Draw(s) during the Year					



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
					(₹ in lakh)
Less: Repayments of Loan during the year	3.61	3.61	3.61	3.61	3.61
<b>Net Closing Loan</b>	<b>36.11</b>	<b>32.50</b>	<b>28.89</b>	<b>25.28</b>	<b>21.67</b>
Average Net Loan	37.92	34.31	30.70	27.09	23.48
Rate of Interest on Loan (%)	8.84	8.84	8.84	8.84	8.84
<b>Interest on Loan</b>	<b>3.35</b>	<b>3.03</b>	<b>2.71</b>	<b>2.39</b>	<b>2.08</b>
<b>Summary</b>					
Gross Opening Loan	8689.33	8689.33	8689.33	8689.33	8689.33
Cumulative Repayments of Loans upto Previous Year	2476.83	3200.93	3925.03	4649.13	5373.23
<b>Net Loans Opening</b>	<b>6212.50</b>	<b>5488.40</b>	<b>4764.30</b>	<b>4040.20</b>	<b>3316.10</b>
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	724.10	724.10	724.10	724.10	724.10
<b>Net Closing Loan</b>	<b>5488.40</b>	<b>4764.30</b>	<b>4040.20</b>	<b>3316.10</b>	<b>2592.00</b>
Average Net Loan	5850.45	5126.35	4402.25	3678.15	2954.05
Rate of Interest on Loan (%)	9.5681%	9.5692%	9.5706%	9.5726%	9.5756%
<b>Interest on Loan</b>	<b>559.78</b>	<b>490.55</b>	<b>421.32</b>	<b>352.10</b>	<b>282.87</b>