

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 407/TT/2014

Coram:

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

**Date of Hearing : 02.12.2015
Date of Order : 30.12.2015**

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for Madurai- Trivandrum 400 kV D/C Transmission System in Southern Region 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.

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.
Kaveri Bhawan, Bangalore-560009
2. Transmission Corporation of Andhra Pradesh Ltd.
(APTRANSCO), Vidyut Soudha
Hyderabad-500082
3. Kerala State Electricity Board (KSEB)
Vaidyuthi Bhavanam, 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, Seethmmadhara, Vishakhapatnam
Andhra Pradesh
7. Southern Power Distribution Company of Andhra Pradesh
Srinivasasa Kalyana Mandapam Backside
Tiruchanoor Road, Kesavayana Gunta
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



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 Jayaprakash R., Advocate, TANGEDCO
Shri Vallinayagam, Advocate, TANGEDCO

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner"), a transmission licensee, for trueing up of capital expenditure and tariff for Madurai- Trivandrum 400 kV D/C Transmission System in Southern Region (hereinafter referred as "transmission asset") 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.

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 Respondent No. 4, i.e., Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO) vide affidavit dated 27.11.2015. The concerns expressed by the respondents have been addressed 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, rejoinder to the reply filed by Respondent No.4 and replies to the queries 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 queries raised by the Commission vide affidavit dated 16.12.2015 and rejoinder to replies filed by TANGEDCO vide affidavit dated 17.12.2015. Having



heard the representatives of the petitioner and 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 investment approval for the transmission assets was approved by the Board of Directors of the petitioner company vide Memorandum dated 22.11.2000 at an estimated cost of ₹19597 lakh including IDC of ₹2371 lakh. Subsequently, Revised Cost Estimate (RCE) was approved by the Board of Directors of the petitioner company vide letter dated 30.1.2006 for an estimated cost of ₹26003 lakh including IDC of ₹3422 lakh. The petitioner has built the transmission asset in the Southern Region. The transmission asset was put under commercial operation w.e.f. 1.8.2005.

(b) The tariff from COD to 31.3.2009 was allowed vide order dated 3.2.2010 in Petition No. 291/2009 in accordance with CERC (Terms and Conditions of Tariff) Regulations, 2004.

(c) The tariff for the 2009-14 period was allowed vide order dated 20.10.2010 in Petition No. 116/2010 in accordance with the 2009 Tariff Regulations.

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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1302.21	1302.21	1302.21	1302.21	1302.21
Interest on Loan	1111.45	1002.99	894.32	785.43	676.45
Return on equity	1254.36	1254.36	1254.36	1254.36	1254.36
Interest on Working Capital	109.96	109.62	109.39	109.26	109.25
O & M Expenses	670.01	708.39	748.94	791.73	836.93
Total	4447.99	4377.57	4309.21	4242.98	4179.19



- (d) The Commission, vide order dated 20.10.2010 in Petition No. 116/2010, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹25503.69 lakh 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 14.10.2014.

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 ₹25503.69 lakh as on 31.3.2009 for the purpose of tariff. Further, the petitioner has claimed additional capitalisation of ₹473.60 lakh for 2009-14 tariff period.

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. Respondent No. 4, vide affidavit dated 27.11.2015, submitted that the petitioner has not furnished any details regarding the modifications carried out in the transmission system and apportioning of capital cost with respect to the new asset in the petition and sought the details of the same. Respondent No. 4 further sought the network details to ascertain the correctness of the claim and also to avoid confusion in identifying the transmission elements in existence. In response, the petitioner vide affidavit dated 17.12.2015, submitted that in the instant project, 400 kV D/C Madurai-Trivandrum line has been executed and commissioned. However, the instant line has been LILoed at Tirunelveli and LILo portion of Madurai-Trivandrum 400 kV D/C line at Tirunelveli has been implemented in a separate project, i.e., ATS of Kudankulam under a separate petition no. 22/TT/2012. The petitioner also submitted that tariff for LILo portion has already been granted by the Commission on 28.5.2012. The petitioner has also submitted Single Line Diagram for the instant asset vide affidavit dated 16.12.2015.

9. The capital cost admitted as on 31.3.2009 vide order dated 3.2.2010 in Petition No. 291/2009 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 ₹25503.69 lakh as on 31.3.2009 has been considered to work out the trued up tariff for the tariff period 2009-14.



Additional Capital Expenditure

10. The petitioner was not allowed any additional capitalization for the tariff period 2009-14 vide order dated 20.10.2010 as the petitioner had not projected any additional capitalization for this tariff period. However, in the instant petition, the petitioner has claimed additional capitalization of ₹473.60 lakh on account of land compensation paid as per Court order. In this regard, Respondent No. 4 vide affidavit dated 27.11.2015, sought the particulars about the date or petition number or the court, which granted compensation. The petitioner was directed vide ROP dated 7.12.2015 sought the copy of Court order(s) with summary containing the details of the Court, the case number and the date of the Court order. In response, the petitioner vide affidavit dated 16.12.2015, submitted the summary of land compensation paid as per the Judgement of Lok Adalat under District Court of Thiruvananthapuram and Kollam. The petitioner also submitted the Auditor's Certificate dated 19.5.2014 to substantiate the compensation incurred. The total capital cost including additional capitalisation during 2009-14 tariff period is ₹25977.29 lakh, which is well within the cost of ₹26003 lakh as per investment approval. As the additional capitalisation claimed is on account of court order and the total cost is within the approved cost as per investment approval, we have considered the submissions of the petitioner and have allowed total capital cost including additional capitalization as shown in the table below:-



(₹ in lakh)

Cost as per Investment Approval:- ₹26003 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		
Approved in Order dated 20.10.2010	25503.69	0.00	0.00	0.00	0.00	0.00	0.00	25503.69
Actual	25503.69	18.50	29.80	204.76	61.10	159.44	473.60	25977.29

Debt: Equity

11. 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.”

12. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 71.86:28.14 as on 31.3.2009, admitted by the Commission in its order dated 20.10.2010 in Petition No. 116/2010, 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 71.86:28.14 as on 31.3.2009 has been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of true up of the approved tariff of tariff period 2009-14, as given under:-



(₹ in lakh)		
Funding	Amount	(%)
Debt	18328.15	71.86
Equity	7175.54	28.14
Total	25503.69	100.00

13. With respect to additional capitalization, the petitioner has submitted the debt:equity ratio of 70:30 for 2009-10 to 2013-14. Debt:equity ratio is allowed in accordance with Clause 2 of Regulation 12 of the 2009 Tariff Regulations. The overall debt equity as on 31.3.2014 including additional capitalization is as under:-

Funding	Amount (in ₹ lakh)	(%)
Debt	18659.67	71.83
Equity	7317.62	28.17
Total	25977.29	100.00

Interest on Loan (“IOL”)

14. 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”.

15. The Petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest.

16. We have considered the submissions of the petitioner and accordingly calculated the IOL based on 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 the IOL has been worked out and allowed as follows:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	1111.45	1002.99	894.32	785.43	676.45
As claimed by petitioner	1110.46	1007.12	913.87	809.72	702.85
Allowed after true up	1110.46	1007.12	913.87	809.72	702.84

17. The interest on loan has increased due to increase in average loan on account of additional capitalization incurred towards land compensation during tariff period 2009-14.

Return on Equity (“ROE”)

18. 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.”

19. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 20.10.2010. 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

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

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	1254.36	1254.36	1254.36	1254.36	1254.36
As claimed by petitioner	1340.48	1390.98	1399.16	1406.89	1430.30
Allowed after true up	1340.48	1390.98	1399.16	1406.89	1430.30

The variation in return on equity is due to additional capitalisation during 2009-14 period and increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.



Depreciation

21. 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”

22. 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.”

23. The Commission, in its order dated 20.10.2011, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations.

24. 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 as on COD has been considered as 33 years. 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.



(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	1302.21	1302.21	1302.21	1302.21	1302.21
As claimed by petitioner	1302.70	1303.97	1310.17	1317.19	1323.01
Allowed after true up	1302.70	1303.97	1310.17	1317.19	1323.00

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

25. 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:-

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
O&M Expense for line					
Norm (₹ lakh/km)					
Double Circuit (Twin and Triple Conductor)	0.627	0.663	0.701	0.741	0.783
Asset (km)					
400 kV Madurai-Trivandrum transmission line	216.15	216.15	216.15	216.15	216.15
Total O&M Expense (line) (₹lakh)					
400 kV Madurai- Trivandrum transmission line	135.53	143.31	151.52	160.17	169.25
O&M Expense for Bay					
Norm (₹lakh/Bay)					
400 kV	52.40	55.40	58.57	61.92	65.46
220 kV	36.68	38.78	41.00	43.34	45.82
Bays					
400 kV	6	6	6	6	6
220 kV	6	6	6	6	6
Total O&M expense (Bay) (₹lakh)	534.48	565.08	597.42	631.56	667.68
Total O&M expense (Line and bays) (₹ lakh)	670.01	708.39	748.94	791.73	836.93



26. The O&M Expenses claimed by the petitioner for tariff period 2009-14 is same as that approved in the tariff order dated 20.10.2010 in Petition No. 116/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	670.01	708.39	748.94	791.73	836.93
As claimed by petitioner	670.01	708.39	748.94	791.73	836.93
Allowed after true up	670.01	708.39	748.94	791.73	836.93

Interest on working capital(“IWC”)

27. 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.

28. 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.

29. The Commission, vide order dated 20.10.2010 in Petition No. 116/2010, 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.

30. The IWC true up is as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	100.50	106.26	112.34	118.76	125.54
O & M expenses	55.83	59.03	62.41	65.98	69.74
Receivables	755.90	753.84	747.52	739.80	734.49
Total	912.23	919.13	922.27	924.54	929.78
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
Interest	111.75	112.59	112.98	113.26	113.90

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 20.10.2010	109.96	109.62	109.39	109.26	109.25
As claimed by petitioner	111.75	112.59	112.98	113.26	113.90
Allowed after true up	111.75	112.59	112.98	113.26	113.90

31. The variation in IWC is on account of increase in receivables due to variation in Depreciation, IOL and ROE on account of additional capitalisation during 2009-14 period and variation in ROE due to applicable MAT rate 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 the transmission asset for the tariff period 2009-14 is summarised below:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block					
Gross Opening Block	25503.69	25522.19	25551.99	25756.75	25817.85
Additional Capitalisation	18.50	29.80	204.76	61.10	159.44
Gross Closing Block	25522.19	25551.99	25756.75	25817.85	25977.29
Average Gross Block	25512.94	25537.09	25654.37	25787.30	25897.57
Depreciation					
Rate of Depreciation (%)	5.106	5.106	5.107	5.108	5.109
Depreciable Value	22540.58	22562.32	22667.87	22787.51	22886.75
Elapsed Life (Beginning of the year)	3	4	5	6	7
Weighted Balance Useful life of the assets	30	29	28	27	26
Remaining Depreciable Value	18732.38	17451.42	16253.00	15062.47	13844.52
Depreciation	1302.70	1303.97	1310.17	1317.19	1323.00
Interest on Loan					
Gross Normative Loan	18328.15	18341.10	18361.96	18505.29	18548.06
Cumulative Repayment upto Previous Year	4097.02	5399.72	6703.69	8013.86	9331.05
Net Loan-Opening	14231.13	12941.38	11658.27	10491.43	9217.01
Addition due to Additional Capitalisation	12.95	20.86	143.33	42.77	111.61
Repayment during the year	1302.70	1303.97	1310.17	1317.19	1323.00
Net Loan-Closing	12941.38	11658.27	10491.43	9217.01	8005.62
Average Loan	13586.26	12299.83	11074.85	9854.22	8611.32
Weighted Average Rate of Interest on Loan (%)	8.1734	8.1881	8.2518	8.2169	8.1618
Interest	1110.46	1007.12	913.87	809.72	702.84
Return on Equity					
Opening Equity	7175.54	7181.09	7190.03	7251.46	7269.79
Addition due to Additional Capitalisation	5.55	8.94	61.43	18.33	47.83



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Closing Equity	7181.09	7190.03	7251.46	7269.79	7317.62
Average Equity	7178.32	7185.56	7220.75	7260.63	7293.71
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)	1340.48	1390.98	1399.16	1406.89	1430.30
Interest on Working Capital					
Maintenance Spares	100.50	106.26	112.34	118.76	125.54
O & M expenses	55.83	59.03	62.41	65.98	69.74
Receivables	755.90	753.84	747.52	739.80	734.49
Total	912.23	919.13	922.27	924.53	929.78
Interest	111.75	112.59	112.98	113.26	113.90
Annual Transmission Charges					
Depreciation	1302.70	1303.97	1310.17	1317.19	1323.00
Interest on Loan	1110.46	1007.12	913.87	809.72	702.84
Return on Equity	1340.48	1390.98	1399.16	1406.89	1430.30
Interest on Working Capital	111.75	112.59	112.98	113.26	113.90
O & M Expenses	670.01	708.39	748.94	791.73	836.93
Total	4535.39	4523.06	4485.13	4438.78	4406.96

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1327.22	1327.22	1327.22	1327.22	349.07
Interest on Loan	604.94	492.26	382.67	280.21	219.68
Return on equity	1434.99	1434.99	1434.99	1434.99	1434.99
Interest on Working Capital	119.92	118.74	117.68	116.82	94.46
O & M Expenses	767.88	793.47	819.77	846.96	875.08
Total	4254.95	4166.68	4082.33	4006.20	2973.28

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



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	115.18	119.02	122.97	127.04	131.26
O & M expenses	63.99	66.12	68.31	70.58	72.92
Receivables	709.16	694.45	680.39	667.70	495.55
Total	888.33	879.59	871.67	865.32	699.73
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	119.92	118.74	117.68	116.82	94.46

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 ₹25977.29 lakh as on 31.3.2014 and no additional capitalization for tariff period 2014-19. The trued up capital cost of ₹25977.29 lakh 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 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 71.83:28.17 as on 31.3.2014. The admitted debt:equity ratio of 71.83:28.17 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. Further, as there is no additional capitalization, debt:equity ratio 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:-

Particulars	Amount (in ₹lakh)	(%)
Debt	18659.67	71.83
Equity	7317.62	28.17
Total	25977.29	100.00

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-II** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	18659.67	18659.67	18659.67	18659.67	18659.67
Cumulative Repayment upto COD/previous year	10654.05	11981.26	13308.48	14635.69	15962.90
Net Loan-Opening	8005.62	6678.41	5351.19	4023.98	2696.77
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1327.21	1327.21	1327.21	1327.21	346.88
Net Loan-Closing	6678.41	5351.19	4023.98	2696.77	2349.89
Average Loan	7342.01	6014.80	4687.59	3360.37	2523.33
Rate of Interest (%)	8.2394	8.1841	8.1636	8.3386	8.7098
Interest	604.93	492.26	382.67	280.21	219.78

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:

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

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 is given below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7317.62	7317.62	7317.62	7317.62	7317.62
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	7317.62	7317.62	7317.62	7317.62	7317.62
Average Equity	7317.62	7317.62	7317.62	7317.62	7317.62
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
Return on Equity (Pre Tax)	1434.99	1434.99	1434.99	1434.99	1434.99

Depreciation

46. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

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



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

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

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

47. The petitioner in the instant petition has submitted that the assets will complete 12 years on 1.8.2017. Accordingly, the depreciation during 2018-19 has been calculated based on remaining depreciable 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 ₹25977.29 lakh as on 31.3.2014 and no additional capitalization during 2014-19 tariff period.

48. Respondent No. 4 vide affidavit dated 27.11.2015 submitted that in the statement of depreciation in Form 10A, there is inadvertent error in calculating the remaining depreciable value, which has cumulative effect on the tariff for entire period. The petitioner in the column for 2013-14 has submitted ₹10365.25 lakh as cumulative depreciation whereas in the column for 2014-15 the petitioner has submitted cumulative depreciation upto previous year as ₹10319.26 lakh. In this regard, the petitioner vide affidavit dated 17.12.2015 has submitted that at the beginning of 2018-19, asset has already completed 12 years and thus depreciation from 2018-19 has been calculated based on remaining depreciable



value to be recovered in the balance useful life as per Clause 27 of the 2014 Tariff Regulations.

49. The Commission observed that the rejoinder submitted by the petitioner in the context of inadvertent error in calculation of depreciation does not address the error pointed by the respondent. The Commission has corrected the inadvertent error pointed out by the Respondent No. 4 and has revised the computation accordingly. The Commission has considered ₹10365.23 lakh cumulative depreciation upto 2013-14 as depreciation upto previous year in the column of 2014-15 and has accordingly computed the depreciation from 2014-15 onwards. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed is given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	25977.29	25977.29	25977.29	25977.29	25977.29
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross block at the end of the year	25977.29	25977.29	25977.29	25977.29	25977.29
Average gross block	25977.29	25977.29	25977.29	25977.29	25977.29
Freehold Land	467.85	467.85	467.85	467.85	467.85
Rate of Depreciation (%)	5.109	5.109	5.109	5.109	1.335
Depreciable Value	22958.50	22958.50	22958.50	22958.50	22958.50
Elapsed Life of the assets at beginning of the year	8	9	10	11	12
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	12593.27	11266.05	9938.84	8611.63	7284.41
Depreciation	1327.21	1327.21	1327.21	1327.21	346.88



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

50. 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 have been worked out as given hereunder:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense for line					
Norm (₹ lakh/km)					
Double Circuit (Twin and Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Asset (km)					
400 kV Madurai-Trivandrum transmission line	216.15	216.15	216.15	216.15	216.15
Total O&M Expense (line) (₹lakh)					
400 kV Madurai-Trivandrum transmission line	152.82	158.01	163.19	168.60	174.22
O&M Expense for Bay					
Norm (₹lakh/Bay)					
400 kV	60.30	62.30	64.37	66.51	68.71
220 kV	42.21	43.61	45.06	46.55	48.10
Bays					
400 kV	6	6	6	6	6
220 kV	6	6	6	6	6
Total O&M expense (Bay) (₹ lakh)	615.06	635.46	656.58	678.36	700.86
Total O&M expense (Line and bays) (₹ lakh)	767.88	793.47	819.77	846.96	875.08

51. 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.

52. With respect to the revision in O&M norms the Respondent No. 4 submitted that the beneficiaries are over burdened due to the exorbitant O&M rates when compared to the rates of State Transmission Utilities. Any further revision in O&M norms will worsen the financial status of the beneficiaries. Respondent No. 4 made a prayer to direct the petitioner to claim O&M expenses as per the provisions of Regulations and not grant any leave to the petitioner in this petition. Respondent No. 4 further submitted that there is no such provision under the present Regulations to grant leave to file a petition for revision of O&M expenses. In response the petitioner vide affidavit dated 17.12.2015 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 for tariff period 2014-19. Further, the petitioner submitted that in line with Regulation 19(f) (ii) of the 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.

53. 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.

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	767.88	793.47	819.77	846.96	875.08

Interest on Working Capital (“IWC”)

55. 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;”

56. 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%.

57. 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:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	115.18	119.02	122.97	127.04	131.26
O & M expenses	63.99	66.12	68.31	70.58	72.92
Receivables	709.16	694.44	680.39	667.70	495.19
Total	888.33	879.59	871.67	865.32	699.37
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	119.92	118.74	117.68	116.82	94.42

Annual Transmission Charges

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	25977.29	25977.29	25977.29	25977.29	25977.29
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	25977.29	25977.29	25977.29	25977.29	25977.29
Average Gross Block	25977.29	25977.29	25977.29	25977.29	25977.29
Depreciation					
Rate of Depreciation (%)	5.109	5.109	5.109	5.109	1.335
Depreciable Value	22958.50	22958.50	22958.50	22958.50	22958.50
Elapsed Life (Beginning of the year)	8	9	10	11	12
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	12593.27	11266.05	9938.84	8611.63	7284.41
Depreciation	1327.21	1327.21	1327.21	1327.21	346.88
Interest on Loan					
Gross Normative Loan	18659.67	18659.67	18659.67	18659.67	18659.67



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Cumulative Repayment upto Previous Year	10654.05	11981.26	13308.48	14635.69	15962.90
Net Loan-Opening	8005.62	6678.41	5351.19	4023.98	2696.77
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1327.21	1327.21	1327.21	1327.21	346.88
Net Loan-Closing	6678.41	5351.19	4023.98	2696.77	2349.89
Average Loan	7342.01	6014.80	4687.59	3360.37	2523.33
Weighted Average Rate of Interest on Loan (%)	8.2394	8.1841	8.1636	8.3386	8.7098
Interest	604.93	492.26	382.67	280.21	219.78
Return on Equity					
Opening Equity	7317.62	7317.62	7317.62	7317.62	7317.62
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	7317.62	7317.62	7317.62	7317.62	7317.62
Average Equity	7317.62	7317.62	7317.62	7317.62	7317.62
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)	1434.99	1434.99	1434.99	1434.99	1434.99
Interest on Working Capital					
Maintenance Spares	115.18	119.02	122.97	127.04	131.26
O & M expenses	63.99	66.12	68.31	70.58	72.92
Receivables	709.16	694.44	680.39	667.70	495.19
Total	888.33	879.59	871.67	865.32	699.37
Interest	119.92	118.74	117.68	116.82	94.42
Annual Transmission Charges					
Depreciation	1327.21	1327.21	1327.21	1327.21	346.88
Interest on Loan	604.93	492.26	382.67	280.21	219.78
Return on Equity	1434.99	1434.99	1434.99	1434.99	1434.99
Interest on Working Capital	119.92	118.74	117.68	116.82	94.42
O & M Expenses	767.88	793.47	819.77	846.96	875.08
Total	4254.94	4166.67	4082.32	4006.18	2971.13



Filing Fee and Publication Expenses

59. 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

60. 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

61. 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

62. 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.

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. 407/TT/2014.

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

Sd/-
(A.S. Bakshi)
Member



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 IX-DOCO	12.25	112.00	0.00	112.00
BOND X-DOCO	10.90	1066.00	0.00	1066.00
BOND XI-Option-I-DOCO	9.80	1052.00	0.00	1052.00
BOND XII-DOCO	9.70	1874.00	0.00	1874.00
BOND XIII-Option-I-DOCO	8.63	5000.00	0.00	5000.00
BOND XV-DOCO	6.68	1690.00	0.00	1690.00
BOND XVI-DOCO	7.10	4650.00	0.00	4650.00
BOND XVII- ADDCAP FOR 2005-2006	7.39	1000.00	0.00	1000.00
BOND XVII-DOCO	8.15	30.00	0.00	30.00
BOND XIX- ADDCAP FOR 2006-2007	9.25	110.00	0.00	110.00
BOND XXII- ADDCAP FOR 2006-2007	8.68	115.00	0.00	115.00
Oriental Bank of Commerce-DOCO	9.60	484.00	0.00	484.00
Punjab National Bank-II-DOCO	8.89	581.00	0.00	581.00
Total		17764.00	0.00	17764.00

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	17764.00	17764.00	17764.00	17764.00	17764.00
Cumulative Repayment of loan upto previous year	3927.13	5484.75	7061.12	8637.49	10213.86
Net Loan Opening	13836.87	12279.25	10702.88	9126.51	7550.14
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1557.62	1576.37	1576.37	1576.37	1565.17
Net Loan Closing	12279.25	10702.88	9126.51	7550.14	5984.97
Average Loan	13058.06	11491.07	9914.70	8338.33	6767.56
Interest	1067.28	940.90	818.14	685.16	552.36
Weighted Average Rate of Interest (%)	8.1734	8.1881	8.2518	8.2169	8.1618



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 IX-DOCO	12.25	112.00	0.00	112.00
BOND X-DOCO	10.90	1066.00	0.00	1066.00
BOND XI-Option-I-DOCO	9.80	1052.00	0.00	1052.00
BOND XII-DOCO	9.70	1874.00	0.00	1874.00
BOND XIII-Option-I-DOCO	8.63	5000.00	0.00	5000.00
BOND XV-DOCO	6.68	1690.00	0.00	1690.00
BOND XVI-DOCO	7.10	4650.00	0.00	4650.00
BOND XVII- ADDCAP FOR 2005-2006	7.39	1000.00	0.00	1000.00
BOND XVII-DOCO	8.15	180.00	0.00	180.00
BOND XIX- ADDCAP FOR 2006-2007	9.25	660.00	0.00	660.00
BOND XXII- ADDCAP FOR 2006-2007	8.68	690.00	0.00	690.00
Oriental Bank of Commerce-DOCO	12.35	484.00	0.00	484.00
Punjab National Bank-II-DOCO	11.60	581.00	0.00	581.00
Total		19039.00	0.00	19039.00

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

Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	19039.00	19039.00	19039.00	19039.00	19039.00
Cumulative Repayment of loan upto previous year	11779.03	13344.20	14909.35	16296.88	17440.60
Net Loan Opening	7259.97	5694.80	4129.65	2742.12	1598.40
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1565.17	1565.15	1387.53	1143.72	262.08
Net Loan Closing	5694.80	4129.65	2742.12	1598.40	1336.32
Average Loan	6477.39	4912.23	3435.89	2170.26	1467.36
Interest	533.69	402.02	280.49	180.97	127.80
Weighted Average Rate of Interest (%)	8.2394	8.1841	8.1636	8.3386	8.7098

