

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 197/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:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for 400 kV Vindhyachal-Kanpur line at Singrauli along with bays at Singrauli end (Realignment of Vindhyachal-Kanpur S/C line at Singrauli and Singrauli-Vindhyachal 2nd 400 kV Ckt) and Bus coupler bay at Vindhyachal HVDC under System Strengthening Scheme in Singrauli-Vindhyachal corridor in Northern 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. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.
Vidyut Bhawan, Vidyut Marg,
Jaipur-302 005
2. Ajmer Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road



Heerapura, Jaipur

4. Jodhpur Vidyut Vitran Nigam Ltd.
400 kV GSS Building (Ground Floor), Ajmer Road
Heerapura, Jaipur
 5. Himachal Pradesh State Electricity Board,
Vidyut Bhawan,
Kumar House Complex Building II
Shimla-171004
 6. Punjab State Power Corporation Ltd.
Thermal Shed T1 A, Near 22 Phatak
Patiala-147001
 7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) 134 109
 8. Power Development Deptt.
Govt. of Jammu & Kashmir
Mini Secretariat, Jammu
 9. Uttar Pradesh Power Corporation Ltd.
Shakti Bhawan, 14, Ashok Marg
Lucknow- 226001
 10. Delhi Transco Ltd.
Shakti Sadan, Kotla Road
New Delhi- 110002
 11. BSES Yamuna Power Ltd.
BSES Bhawan, Nehru Place
New Delhi
 12. BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place
New Delhi
 13. North Delhi Power Ltd.
Power Trading & Load Dispatch Group
Cennet Building
Pitampura, New Delhi-110034
 14. Chandigarh Administration
Sector-9, Chandigarh
 15. Uttarakhand Power Corporation Ltd.
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Urja Bhawan, Kanwali Road
Dehradun

16. North Central Railway
Allahabad

17. New Delhi Municipal Council
Palika Kendra, Sansad Marg
New Delhi-110002

....Respondents

The following were present:

For Petitioner: Shri S.K. Niranjan, PGCIL
Shri Jasbir Singh, PGCIL
Shri S.S. Raju, PGCIL
Smt. Sangeeta Edwards, PGCIL
Shri. S.C. Taneja, PGCIL
Shri Rakesh Prasad, PGCIL
Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri Shashi Bhushan, PGCIL
Shri Ved Prakash Rastogi, PGCIL

For Respondent: Shri S.K. Aggarwal, Advocate, JVVNL
Shri Tarun Ahuja, JVVNL
Shri. B.L. Sharma, JVVNL

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ('the petitioner'), a transmission licensee, for truing up of capital expenditure and tariff for 400 kV Vindhyachal-Kanpur line at Singrauli along with bays at Singrauli end (Realignment of Vindhyachal-Kanpur S/C line at Singrauli and Singrauli-Vindhyachal 2nd 400 kV Ckt) and Bus coupler bay at Vindhyachal HVDC under System Strengthening Scheme in Singrauli-Vindhyachal corridor in Northern 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 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 mostly distribution licensees or centralised power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Northern 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 the Section 64 of the Electricity Act, 2003 (“the Act”). In response to the instant petition, Jaipur Vidyut Vitran Nigam Ltd. (JVVNL), Respondent No. 3, filed its reply vide letter dated 29.9.2014. No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. 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.

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

(a) The investment approval was accorded by Board of Directors of the petitioner company vide Memorandum dated 25.2.2004 for an estimated cost of ₹1726 lakh. Subsequently, approval for the revised cost estimate was accorded by Board of Directors dated 26.2.2008 for ₹ 2179 lakh. The



petitioner has built the transmission asset under system strengthening scheme in Singrauli-Vindhyachal corridor in Northern Region and put under commercial operation w.e.f 1.5.2007.

- (b) The tariff for 1.5.2007 to 31.3.2009 was allowed vide order dated 29.4.2009 in Petition No. 124/2008 on account of additional capitalisation incurred from C.O.D (1.5.2007) to 31.3.2008 in accordance with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004.
- (c) The tariff for 2008-09 was revised vide order dated 12.1.2010 in Petition No. 273/2009 in accordance with Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 on account of additional capitalisation incurred during 2008-09.
- (d) The tariff for 2009-14 period was allowed vide order dated 14.1.2011 in Petition No. 201/2010 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	100.49	100.49	100.49	100.49	100.49
Interest on Loan	98.47	90.49	82.26	73.84	65.40
Return on Equity	99.11	99.11	99.11	99.11	99.11
Interest on Working Capital	11.53	11.67	11.82	11.99	12.17
O & M Expenses	106.35	112.44	118.88	125.67	132.86
Total	415.95	414.20	412.56	411.09	410.03

- (e) The Commission, in its order dated 14.1.2011, has determined the tariff based on admitted capital cost of □1889.85 lakh as on 31.3.2009. No additional expenditure was claimed by the petitioner for the tariff period 2009-14.



- (f) 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.
- (g) The instant petition was filed on 25.7.2014.

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

5. Respondent No. 3 submitted that the revised transmission tariff claimed by the petitioner for tariff period 2009-14 is higher as compared to tariff approved and should not be allowed.
6. The truing up of tariff for 2009-14 tariff period has been determined as discussed below:-

Capital Cost

7. The petitioner has claimed admitted capital cost of ₹1889.85 lakh as on 31.03.2009 for the purpose of tariff. Further, the petitioner has submitted that no additional capitalisation has been incurred in the tariff period 2009-14.
8. 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 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 admitted as on 31.3.2009 by the Commission vide Order dated 12.1.2010 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 ₹ 1889.85 lakh as on 1.4.2009 has been considered to work out the trued up tariff for the tariff period 2009-14.

Additional Capital Expenditure

10. The petitioner has not claimed any additional capital expenditure for 2009-14 tariff period.

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 trued up Annual Fixed Charge based on debt-equity ratio of 70:30 as considered by the Commission in its order dated 14.1.2011 in Petition No. 201/2010. The transmission assets covered in the instant petition are existing assets, as the COD is prior to 1.4.2009. At the time of determination of tariff in Petition No. 201/2010, the Commission has considered admitted debt:equity ratio as on 31.3.2009 vide order dated 14.1.2011. The admitted debt:equity ratio of 70:30 as on 31.3.2009 has been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of truing up of the approved tariff for tariff period 2009-14, as given under:-



Funding	Amount (₹ in lakh)	(%)
Debt	1322.91	70.00
Equity	566.94	30.00
Total	1889.85	100.00

Interest on Loan (“IOL”)

13. Regulation 16 of the 2009 Tariff Regulations provides 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 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”.

14. The petitioner has submitted the computation of weighted average rate of interest based on actual loan portfolio and rate of interest.

15. Respondent No. 3 submitted that floating rate of interest does not apply in case loan is funded through bonds with fixed rate of interest.

16. It is observed that the debt funding in the instant case is through bonds which bear a fixed interest rate. Therefore in accordance with the provisions of Regulation 16 of the 2009 Tariff Regulations, weighted average rate of interest on actual loan portfolio has been worked out. Detailed calculation in support of the weighted average rate of interest has been given in Annexure-I to this order.

17. Accordingly, interest on loan as trued up is as shown in the table below:-



(□ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 14.1.2011	98.47	90.49	82.26	73.84	65.40
As claimed by petitioner	98.47	90.49	82.25	73.84	65.40
Allowed after trued up	98.47	90.49	82.25	73.84	65.40

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:

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

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

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

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

19. The petitioner has submitted that the MAT rate considered in the tariff order approving transmission tariff for the transmission asset for tariff period 2009-14 was 11.330%, as applicable for 2008-09. 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	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 shown in the table below:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 14.1.2011	99.11	99.11	99.11	99.11	99.11
As claimed by petitioner	105.87	109.75	109.86	109.86	111.18
Allowed after trued up	105.87	109.75	109.86	109.86	111.18

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

Depreciation

21. Regulation 17 of the 2009 Tariff Regulations provides for the methodology to work out the depreciation. The Commission, in its order dated 14.1.2011, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations based on estimated capital expenditure. The petitioner has submitted the depreciation for the purpose of truing up for tariff period 2009-14 with slight variation to that approved by the Commission vide order in Petition No. 201/2010, which is due to rounding off.



22. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on actual capital expenditure as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 14.1.2011	100.49	100.49	100.49	100.49	100.49
As claimed by petitioner	100.50	100.50	100.50	100.50	100.50
Allowed after tried up	100.49	100.49	100.49	100.49	100.49

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

23. The petitioner has computed O&M Expenses for the assets mentioned in the petition, in accordance with the O&M norms for 400 kV lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses have been worked out as given below:-

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Norm (₹ lakh/km)					
Double Circuit (Twin & Triple Conductor)	0.627	0.663	0.701	0.741	0.783
Single Circuit (Twin & Triple Conductor)	0.358	0.378	0.400	0.423	0.447
Asset (km.)					
LILO 400 kV D/C Vindhyachal-Kanpur line	1.90	1.90	1.90	1.90	1.90
LILO 400 kV S/C Vindhyachal-Kanpur line	1.01	1.01	1.01	1.01	1.01
O&M Expense (₹ lakh)					
LILO 400 kV D/C Vindhyachal-Kanpur line	1.19	1.26	1.33	1.41	1.49
LILO 400 kV S/C Vindhyachal-Kanpur line	0.36	0.38	0.40	0.43	0.45
Total O&M Expense (line)	1.55	1.64	1.74	1.83	1.94
Norm (₹ lakh/Bay)					
400 kV	52.40	55.40	58.57	61.92	65.46
Bays					
400 kV	2	2	2	2	2



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Total O&M expense for bays (₹ lakh)	104.80	110.80	117.14	123.84	130.92
Total O&M expense (line and bays)	106.35	112.44	118.88	125.67	132.86

24. The O&M Expenses claimed by the petitioner for tariff period 2009-14 is same as that approved in the tariff order dated 14.1.2011 in Petition No. 201/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 14.1.2011	106.35	112.44	118.88	125.67	132.86
As claimed by petitioner	106.35	112.44	118.88	125.67	132.86
Allowed after trued up	106.35	112.44	118.88	125.67	132.86

Interest on working capital (“IWC”)

25. 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.

26. 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 Regulations.



27. The Commission in its order dated 14.1.2011 in Petition No. 201/2010 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.

28. The IWC trued up is as under:-

(□ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	15.95	16.87	17.83	18.85	19.93
O & M expenses	8.86	9.37	9.91	10.47	11.07
Receivables	70.48	70.84	70.59	70.35	70.39
Total	95.29	97.08	98.32	99.67	101.39
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	11.67	11.89	12.04	12.21	12.42

(□ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved in order dated 14.1.2011	11.53	11.67	11.82	11.99	12.17
As claimed by petitioner	11.67	11.89	12.05	12.21	12.42
Allowed after trued up	11.67	11.89	12.04	12.21	12.42

The IWC has increased on account of increase in receivables due to variation in ROE on account of applicable MAT rate during 2009-14 tariff period.



ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

29. 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					
Opening Gross block	1889.85	1889.85	1889.85	1889.85	1889.85
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross block	1889.85	1889.85	1889.85	1889.85	1889.85
Average Gross block	1889.85	1889.85	1889.85	1889.85	1889.85
Depreciation					
Rate of Depreciation	5.318%	5.318%	5.318%	5.318%	5.318%
Depreciable Value	1700.87	1700.87	1700.87	1700.87	1700.87
Weighted Balance Useful life of the assets	26	25	24	23	22
Remaining Depreciable Value	1582.35	1481.85	1381.36	1280.86	1180.37
Depreciation	100.49	100.49	100.49	100.49	100.49
Interest on Loan					
Gross Normative Loan	1322.91	1322.91	1322.91	1322.91	1322.91
Cumulative Repayment upto Previous Year	118.52	219.01	319.51	420.00	520.49
Net Loan-Opening	1204.39	1103.90	1003.40	902.91	802.42
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	100.49	100.49	100.49	100.49	100.49
Net Loan-Closing	1103.90	1003.40	902.91	802.42	701.92
Average Loan	1154.14	1053.65	953.16	852.66	752.17
Weighted Average Rate of Interest on Loan	8.5317%	8.5879%	8.6298%	8.6597%	8.6954%
Interest	98.47	90.49	82.26	73.84	65.40
Return on Equity					
Opening Equity	566.94	566.94	566.94	566.94	566.94
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	566.94	566.94	566.94	566.94	566.94
Average Equity	566.94	566.94	566.94	566.94	566.94
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the respective year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre	18.674	19.358	19.377	19.377	19.611



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Tax) (%)					
Return on Equity (Pre Tax)	105.87	109.75	109.86	109.86	111.18
Interest on Working Capital					
Maintenance Spares	15.95	16.87	17.83	18.85	19.93
O & M expenses	8.86	9.37	9.91	10.47	11.07
Receivables	70.48	70.84	70.59	70.35	70.39
Total	95.29	97.08	98.32	99.67	101.39
Interest	11.67	11.89	12.04	12.21	12.42
Annual Transmission Charges					
Depreciation	100.49	100.49	100.49	100.49	100.49
Interest on Loan	98.47	90.49	82.26	73.84	65.40
Return on Equity	105.87	109.75	109.86	109.86	111.18
Interest on Working Capital	11.67	11.89	12.04	12.21	12.42
O & M Expenses	106.35	112.44	118.88	125.67	132.86
Total	422.85	425.06	423.52	422.07	422.36

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

(□ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	100.50	100.50	100.50	100.50	100.50
Interest on Loan	56.97	48.54	40.13	31.72	23.36
Return on equity	111.18	111.18	111.18	111.18	111.18
Interest on Working Capital	12.94	12.97	13.01	13.06	13.11
O & M Expenses	122.35	126.41	130.61	134.95	139.42
Total	403.94	399.60	395.43	391.41	387.57

31. 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	18.35	18.96	19.59	20.24	20.91
O & M expenses	10.20	10.53	10.88	11.25	11.62
Receivables	67.32	66.60	65.91	65.24	64.60
Total	95.87	96.10	96.38	96.72	97.13
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	12.94	12.97	13.01	13.06	13.11

Capital Cost

32. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provides 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.”

33. The petitioner has claimed the capital expenditure of □1889.85 lakh as on 31.3.2009 in accordance with order dated 12.1.2010 in petition No. 273/2009. Further, the petitioner has not projected any additional capital expenditure during the tariff period 2014-19.

34. The trued up capital cost of □1889.85 lakh as on 31.3.2014 is considered as opening capital cost as on 1.4.2014 for the purpose of tariff for tariff period 2014-19.



Additional Capital Expenditure

35. The petitioner has not claimed any additional capital expenditure for the tariff period 2014-19. No additional capital expenditure has been considered for the tariff period 2014-19.

Debt – Equity Ratio

36. Clause 3 of Regulation 19 of the 2014 Tariff Regulations is reproduced 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.”

37. The petitioner has considered Debt:Equity ratio as 70:30, which was approved vide order dated 14.1.2011 in Petition No. 201/2010 and same was allowed for determination of tariff for the period ending 31.3.2014. The admitted debt equity ratio of 70:30 for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

Funding	Amount (in ₹ lakh)	(%)
Debt	1322.91	70.00
Equity	566.94	30.00
Total	1889.85	100.00

Interest on Loan (“IOL”)

38. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations is 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.”

39. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2014.

40. It is observed that the debt funding in the instant case is through bonds which bear a fixed interest rate. 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	1322.91	1322.91	1322.91	1322.91	1322.91
Cumulative Repayment upto previous year	620.99	721.48	821.98	922.47	1022.96
Net Loan-Opening	701.92	601.43	500.93	400.44	299.95
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	100.49	100.49	100.49	100.49	100.49
Net Loan-Closing	601.43	500.93	400.44	299.95	199.45
Average Loan	651.67	551.18	450.69	350.19	249.70
Rate of Interest	8.7425%	8.8078%	8.9052%	9.0603%	9.3582%
Interest on Loan	56.97	48.55	40.13	31.73	23.37



Return on Equity (“ROE”)

41. Clause (1) and (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specifies as under:-

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

.....

25. Tax on Return on Equity:

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

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

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

42. The petitioner has 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.

43. 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 during/after completion of income tax assessment of the financial year.

44. 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 shown in the table below:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	566.94	566.94	566.94	566.94	566.94
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	566.94	566.94	566.94	566.94	566.94
Average Equity	566.94	566.94	566.94	566.94	566.94
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.96	20.96	20.96	20.96	20.96
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	111.18	111.18	111.18	111.18	111.18

Depreciation

45. Clause (2), (5) & (6) of Regulation 27 of the 2014 Tariff Regulations is reproduced as below:-



"27. Depreciation:

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

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

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

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

46. The petitioner has computed depreciation considering capital expenditure of ₹1889.85 lakh as on 31.3.2009.

47. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross block as on 31.3.2014	1889.85	1889.85	1889.85	1889.85	1889.85
Addition during 2014-19 due to projected Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Gross block as on 31.3.2019	1889.85	1889.85	1889.85	1889.85	1889.85
Average gross block	1889.85	1889.85	1889.85	1889.85	1889.85
Rate of Depreciation	5.318%	5.318%	5.318%	5.318%	5.318%
Depreciable Value	1700.87	1700.87	1700.87	1700.87	1700.87
Remaining Depreciable Value	1079.88	979.38	878.89	778.40	677.90
Depreciation	100.49	100.49	100.49	100.49	100.49



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

48. The petitioner has computed normative O&M Expenses as per Regulation sub clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations.

Accordingly, O&M Expenses have been worked out as given below:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Norm (□ lakh/km)					
Double Circuit (Twin & Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Single Circuit (Twin & Triple Conductor)	0.404	0.418	0.432	0.446	0.461
Asset (km.)					
LILO 400 kV D/C Vindhyachal-Kanpur line	1.90	1.90	1.90	1.90	1.90
LILO 400 kV S/C Vindhyachal-Kanpur line	1.01	1.01	1.01	1.01	1.01
O&M Expense (□ lakh)					
LILO 400 kV D/C Vindhyachal-Kanpur line	1.34	1.39	1.44	1.48	1.53
LILO 400 kV S/C Vindhyachal-Kanpur line	0.41	0.42	0.43	0.45	0.46
Total O&M Expense (Line)	1.75	1.81	1.87	1.93	2.00
Norm (□ lakh/Bay)					
400 kV	60.30	62.30	64.37	66.51	68.71
Bays					
400 kV Singrauli (NTPC Switchyard)-Rihand-I Bay	1	1	1	1	1
400 kV Singrauli (NTPC Switchyard)-Kanpur-I Bay	1	1	1	1	1
Total number of Bays	2	2	2	2	2
Total O&M expense (Bays) (□ lakh)	120.60	124.60	128.74	133.02	137.42
Total O&M expense (line and bays) (□ lakh)	122.35	126.41	130.61	134.95	139.42

49. The petitioner has submitted that 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.

50. Respondent No. 3 submitted that O&M norms should not be revised and expected wage rise in future should be allowed after proper scrutiny in accordance with the law.

51. 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.

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

(₹ in lakh)

Particulars	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	122.35	126.41	130.61	134.95	139.42

Interest on Working Capital (“IWC”)

53. 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;”

54. The petitioner has submitted that it has computed interest on working capital for the tariff period 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%.

55. 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	18.35	18.96	19.59	20.24	20.91
O & M expenses	10.20	10.53	10.88	11.25	11.62
Receivables	67.32	66.60	65.90	65.24	64.59
Total	95.87	96.10	96.38	96.72	97.13
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	12.94	12.97	13.01	13.06	13.11

ANNUAL TRANSMISSION CHARGES FOR 2014-19 TARIFF PERIOD

56. The detailed computation of the various components of the trued up 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	1889.85	1889.85	1889.85	1889.85	1889.85
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	1889.85	1889.85	1889.85	1889.85	1889.85
Average Gross Block	1889.85	1889.85	1889.85	1889.85	1889.85
Depreciation					
Rate of Depreciation	5.3175%	5.3175%	5.3175%	5.3175%	5.3175%
Depreciable Value	1700.87	1700.87	1700.87	1700.87	1700.87
Weighted Balance Useful life of the assets	21	20	19	18	17
Remaining Depreciable Value	1079.88	979.38	878.89	778.40	677.90
Depreciation	100.49	100.49	100.49	100.49	100.49
Interest on Loan					
Gross Normative Loan	1322.91	1322.91	1322.91	1322.91	1322.91
Cumulative Repayment upto Previous Year	620.99	721.48	821.98	922.47	1022.96
Net Loan-Opening	701.92	601.43	500.93	400.44	299.95
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	100.49	100.49	100.49	100.49	100.49
Net Loan-Closing	601.43	500.93	400.44	299.95	199.45
Average Loan	651.67	551.18	450.69	350.19	249.70
Weighted Average Rate of Interest on Loan	8.7425%	8.8078%	8.9052%	9.0603%	9.3582%
Interest	56.97	48.55	40.13	31.73	23.37
Return on Equity					
Opening Equity	566.94	566.94	566.94	566.94	566.94
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	566.94	566.94	566.94	566.94	566.94
Average Equity	566.94	566.94	566.94	566.94	566.94
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.96	20.96	20.96	20.96	20.96
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	111.18	111.18	111.18	111.18	111.18
Interest on Working Capital					
Maintenance Spares	18.35	18.96	19.59	20.24	20.91
O & M expenses	10.20	10.53	10.88	11.25	11.62
Receivables	67.32	66.60	65.90	65.24	64.59
Total	95.87	96.10	96.38	96.72	97.13
Interest	12.94	12.97	13.01	13.06	13.11



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Transmission Charges					
Depreciation	100.49	100.49	100.49	100.49	100.49
Interest on Loan	56.97	48.55	40.13	31.73	23.37
Return on Equity	111.18	111.18	111.18	111.18	111.18
Interest on Working Capital	12.94	12.97	13.01	13.06	13.11
O & M Expenses	122.35	126.41	130.61	134.95	139.42
Total	403.94	399.60	395.43	391.41	387.57

Filing Fee and the Publication Expenses

57. 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

58. 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 52(2)(b) and 52(2)(a) of the 2014 Tariff Regulations respectively.

Service Tax

59. 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

60. 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

61. 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 Regulations.

62. This Order disposes of Petition No. 197/TT/2014.

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

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



ANNEXURE-I**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
BOND XVII					
Gross Opening Loan	591.00	591.00	591.00	591.00	591.00
Cumulative Repayment of loan upto previous year	0.00	59.10	118.20	177.30	236.40
Net Loan Opening	591.00	531.90	472.80	413.70	354.60
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	59.10	59.10	59.10	59.10	59.10
Net Loan Closing	531.90	472.80	413.70	354.60	295.50
Average Loan	561.45	502.35	443.25	384.15	325.05
Rate of Interest	7.39%	7.39%	7.39%	7.39%	7.39%
Interest	41.49	37.12	32.76	28.39	24.02
BOND XIX					
Gross Opening Loan	175.00	175.00	175.00	175.00	175.00
Cumulative Repayment of loan upto previous year	0.00	0.00	14.58	29.16	43.74
Net Loan Opening	175.00	175.00	160.42	145.83	131.25
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	14.58	14.58	14.58	14.58
Net Loan Closing	175.00	160.42	145.83	131.25	116.67
Average Loan	175.00	167.71	153.13	138.54	123.96
Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
Interest	16.19	15.51	14.16	12.81	11.47
BOND XXII					
Gross Opening Loan	40.00	40.00	40.00	40.00	40.00
Cumulative Repayment of loan upto previous year	0.00	0.00	3.33	6.66	9.99
Net Loan Opening	40.00	40.00	36.67	33.33	30.00
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	3.33	3.33	3.33	3.33
Net Loan Closing	40.00	36.67	33.33	30.00	26.67
Average Loan	40.00	38.33	35.00	31.67	28.33
Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
Interest	3.47	3.33	3.04	2.75	2.46
BOND XXIII					



Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	25.00	25.00	25.00	25.00	25.00
Cumulative Repayment of loan upto previous year	0.00	0.00	2.08	4.16	6.24
Net Loan Opening	25.00	25.00	22.92	20.84	18.76
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	2.08	2.08	2.08	2.08
Net Loan Closing	25.00	22.92	20.84	18.76	16.68
Average Loan	25.00	23.96	21.88	19.79	17.71
Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
Interest	2.31	2.22	2.02	1.83	1.64
BOND XXV					
Gross Opening Loan	278.00	278.00	278.00	278.00	278.00
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	23.17	46.34
Net Loan Opening	278.00	278.00	278.00	254.83	231.66
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	23.17	23.17	23.17
Net Loan Closing	278.00	278.00	254.83	231.66	208.49
Average Loan	278.00	278.00	266.42	243.25	220.08
Rate of Interest	10.10%	10.10%	10.10%	10.10%	10.10%
Interest	28.08	28.08	26.91	24.57	22.23
BOND XXVIII					
Gross Opening Loan	15.00	15.00	15.00	15.00	15.00
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	0.00	1.25
Net Loan Opening	15.00	15.00	15.00	15.00	13.75
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	1.25	1.25
Net Loan Closing	15.00	15.00	15.00	13.75	12.50
Average Loan	15.00	15.00	15.00	14.38	13.13
Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
Interest	1.40	1.40	1.40	1.34	1.22
BOND XXIX					
Gross Opening Loan	65.00	65.00	65.00	65.00	65.00
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	0.00	5.42
Net Loan Opening	65.00	65.00	65.00	65.00	59.58
Additions during the year	0.00	0.00	0.00	0.00	0.00



Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
Repayment during the year	0.00	0.00	0.00	5.42	5.42
Net Loan Closing	65.00	65.00	65.00	59.58	54.16
Average Loan	65.00	65.00	65.00	62.29	56.88
Rate of Interest	9.20%	9.20%	9.20%	9.20%	9.20%
Interest	5.98	5.98	5.98	5.73	5.23
Total Loan					
Gross Opening Loan	1189.00	1189.00	1189.00	1189.00	1189.00
Cumulative Repayment of loan upto previous year	0.00	59.10	138.20	240.47	349.40
Net Loan Opening	1189.00	1129.90	1050.80	948.53	839.60
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	59.10	79.09	102.27	108.93	108.93
Net Loan Closing	1129.90	1050.80	948.53	839.60	730.67
Average Loan	1159.45	1090.35	999.67	894.07	785.13
Weighted Average Rate of Interest	8.5317%	8.5879%	8.6298%	8.6597%	8.6954%
Interest	98.92	93.64	86.27	77.42	68.27



ANNEXURE-II

**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
BOND XVII					
Gross Opening Loan	591.00	591.00	591.00	591.00	591.00
Cumulative Repayment of loan upto previous year	295.50	354.60	413.70	472.80	531.90
Net Loan Opening	295.50	236.40	177.30	118.20	59.10
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	59.10	59.10	59.10	59.10	59.10
Net Loan Closing	236.40	177.30	118.20	59.10	0.00
Average Loan	265.95	206.85	147.75	88.65	29.55
Rate of Interest	7.39%	7.39%	7.39%	7.39%	7.39%
Interest	19.65	15.29	10.92	6.55	2.18
BOND XIX					
Gross Opening Loan	175.00	175.00	175.00	175.00	175.00
Cumulative Repayment of loan upto previous year	58.32	72.90	87.48	102.06	116.64
Net Loan Opening	116.68	102.10	87.52	72.94	58.36
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	14.58	14.58	14.58	14.58	14.58
Net Loan Closing	102.10	87.52	72.94	58.36	43.78
Average Loan	109.39	94.81	80.23	65.65	51.07
Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
Interest	10.12	8.77	7.42	6.07	4.72
BOND XXII					
Gross Opening Loan	40.00	40.00	40.00	40.00	40.00
Cumulative Repayment of loan upto previous year	13.32	16.65	19.98	23.31	26.64
Net Loan Opening	26.68	23.35	20.02	16.69	13.36
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	3.33	3.33	3.33	3.33	3.33
Net Loan Closing	23.35	20.02	16.69	13.36	10.03
Average Loan	25.02	21.69	18.36	15.03	11.70
Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
Interest	2.17	1.88	1.59	1.30	1.02
BOND XXIII-DOCO					



Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	25.00	25.00	25.00	25.00	25.00
Cumulative Repayment of loan upto previous year	8.32	10.40	12.48	14.56	16.64
Net Loan Opening	16.68	14.60	12.52	10.44	8.36
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	2.08	2.08	2.08	2.08	2.08
Net Loan Closing	14.60	12.52	10.44	8.36	6.28
Average Loan	15.64	13.56	11.48	9.40	7.32
Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
Interest	1.45	1.25	1.06	0.87	0.68
BOND XXV					
Gross Opening Loan	278.00	278.00	278.00	278.00	278.00
Cumulative Repayment of loan upto previous year	69.51	92.68	115.85	139.02	162.19
Net Loan Opening	208.49	185.32	162.15	138.98	115.81
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	23.17	23.17	23.17	23.17	23.17
Net Loan Closing	185.32	162.15	138.98	115.81	92.64
Average Loan	196.91	173.74	150.57	127.40	104.23
Rate of Interest	10.10%	10.10%	10.10%	10.10%	10.10%
Interest	19.89	17.55	15.21	12.87	10.53
BOND XXVIII					
Gross Opening Loan	15.00	15.00	15.00	15.00	15.00
Cumulative Repayment of loan upto previous year	2.50	3.75	5.00	6.25	7.50
Net Loan Opening	12.50	11.25	10.00	8.75	7.50
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1.25	1.25	1.25	1.25	1.25
Net Loan Closing	11.25	10.00	8.75	7.50	6.25
Average Loan	11.88	10.63	9.38	8.13	6.88
Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
Interest	1.11	0.99	0.88	0.76	0.64
BOND XXIX					
Gross Opening Loan	65.00	65.00	65.00	65.00	65.00
Cumulative Repayment of loan upto previous year	10.83	16.25	21.67	27.09	32.51
Net Loan Opening	54.17	48.75	43.33	37.91	32.49
Additions during the year	0.00	0.00	0.00	0.00	0.00



Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Repayment during the year	5.42	5.42	5.42	5.42	5.42
Net Loan Closing	48.75	43.33	37.91	32.49	27.07
Average Loan	51.46	46.04	40.62	35.20	29.78
Rate of Interest	9.20%	9.20%	9.20%	9.20%	9.20%
Interest	4.73	4.24	3.74	3.24	2.74
Total Loan					
Gross Opening Loan	1189.00	1189.00	1189.00	1189.00	1189.00
Cumulative Repayment of loan upto previous year	458.30	567.23	676.16	785.09	894.02
Net Loan Opening	730.70	621.77	512.84	403.91	294.98
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	108.93	108.93	108.93	108.93	108.93
Net Loan Closing	621.77	512.84	403.91	294.98	186.05
Average Loan	676.24	567.31	458.38	349.45	240.52
Weighted Average Rate of Interest	8.7425%	8.8078%	8.9052%	9.0603%	9.3582%
Interest	59.12	49.97	40.82	31.66	22.51

