

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 24/TT/2016

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A. K. Singhal, Member
Shri A. S. Bakshi, Member
Dr. M. K. Iyer, Member**

Date of Order : 23.08.2016

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 400 KV D/C Chamera Pooling Station-Jalandhar transmission line along with bays and line Reactor at Jalandhar under "Transmission System for Power evacuation from Chamera-III HEP" under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

Versus

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited
Vidyut Bhawan, Vidyut Marg,
Jaipur - 302005
2. Ajmer Vidyut Vitran Nigam Limited
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Limited
400 kV GSS Building (Ground Floor),
Ajmer Road, Heerapura, Jaipur.



4. Jodhpur Vidyut Vitran Nigam Limited
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 Limited
Thermal Shed TIA,
Near 22 Phatak, Patiala-147001
7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) 134 109
8. Power Development Department.
Government of Jammu & Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Limited
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg
Lucknow - 226 001
10. Delhi Transco Limited,
Shakti Sadan, Kotla Road,
New Delhi-110002.
11. BSES Yamuna Power Limited
BSES Bhawan, Nehru Place,
New Delhi.
12. BSES Rajdhani Power Limited
BSES Bhawan, Nehru Place,
New Delhi
13. North Delhi Power Limited
Power Trading and Load Dispatch Group
Cennet Building, Adjacent to 66/11 kV Pitampura-3
Grid Building, Near PP Jewellers
Pitampura, New Delhi-110 034.



14. Chandigarh Administration
Sector -9, Chandigarh.
15. Uttarakhand Power Corporation Limited
Urja Bhawan, Kanwali Road,
Dehradun.
16. North Central Railway,
Allahabad.
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi-110002

.....Respondents

For Petitioner : Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri Subhash C. Taneja, PGCIL
Shri S. S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL

For Respondents : Shri S. K. Agarwal, Advocate, Rajasthan Discoms
Shri S. P. Das, Advocate, Rajasthan Discoms
Shri R. B. Sharma, Advocate, BRPL
Shri Gaurav Gupta, Advocate, PSPCL

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for trueing up of capital expenditure of 2009-14 tariff block 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 from COD, i.e. 1.4.2013 to 31.3.2014 and (ii) for determination of tariff of 2014-19 tariff block of 400 KV D/C Chamera Pooling Station-Jalandhar Transmission Line along with bays and line Reactor at Jalandhar under "Transmission System for Power



evacuation from Chamera-III HEP” under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 (“the Act”). A combined reply has been filed by Respondent No. 1 Rajasthan Rajya Vidyut Prasaran Nigam Limited, Respondent No. 2 Ajmer Vidyut Vitran Nigam Limited and Respondent No. 3 Jaipur Vidyut Vitran Nigam Limited (hereinafter referred to as "Rajasthan Discoms") vide affidavit dated 1.4.2016. Respondent No. 12, BSES Rajdhani Power Limited (BRPL) has filed the reply vide affidavit dated 31.3.2016. The respondents have raised the issues like IDC, additional capital expenditure, petition filing fee and O&M expenses. Rajasthan Discoms have submitted that the petitioner claim of surcharge of FERV, filing fees, licence fee etc. are vague in nature. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

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

- a) Investment Approval (IA) of the project was accorded by the Board of Directors of the petitioner vide letter dated 28.4.2008 at an estimated cost of ₹29737 lakh including IDC of ₹2323 lakh, based on 1st Quarter, 2008 price level. Further, it was revised vide letter dated 6.6.2012 to an estimated cost of ₹38632 lakh including IDC of ₹6221 lakh (Based on 2nd



Quarter, 2011 price level). As per the IA dated 28.4.2008, the instant asset was scheduled to be commissioned within 39 months.

- b) The tariff from COD to 31.3.2014 for the instant assets was determined vide order dated 7.7.2015 in Petition No. 290/TT/2013 in accordance with the 2009 Tariff Regulations based on the following capital cost:-

(₹ in lakh)	
Particulars	Amount
Capital cost claimed as on COD	33231.14
Less: Un-discharged IDC as on COD	(-)-564.24
Less: Excess Initial Spares claimed as on COD	(-) 24.95
Capital Cost admitted / allowed as on COD	32641.95
Add: Projected Add Cap claimed & allowed during 2013-14	1000.00
Capital Cost admitted / allowed as on 31.3.2014	33641.95

- c) The annual transmission tariff approved vide order dated 7.7.2015 in Petition No. 290/TT/2013 are as below:-

(₹ in lakh)	
Particulars	2013-14
Depreciation	1743.72
Interest on Loan	1988.08
Return on Equity	1738.06
Interest on Working Capital	144.09
O & M Expenses	389.87
Total	6003.83

- d) As per I.A. accorded on 28.4.2008, the scheduled date of commercial operation works out to 27.7.2011, i.e. by 1.8.2011 against this the asset was commissioned on 1.4.2013. Hence, there is a time over-run of 20 months in commissioning the asset, which was condoned by the Commission.



- 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.

Truing Up of Annual Fixed Charges For Tariff Period 2009-14

4. Clause (3) of the Regulation 6 of the 2009 Tariff Regulations provides as under:-

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors”.

5. The petitioner has submitted the information as required under the 2009 Tariff Regulations for truing up of annual fixed charges for 2009-14 tariff period. The tariff for 2009-14 tariff period has been trued up in the subsequent paragraphs.

Capital Cost

6. Regulation 7(1) of the 2009 Tariff Regulations provides as follows:-

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

- (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;
- (b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and



(c) additional capital expenditure determined under regulation 9:

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

7. The petitioner has submitted revised Auditor’s Certificate dated 18.9.2014 for actual expenditure incurred for the asset up to COD (1.4.2013) and additional capital expenditure incurred during the period from 1.4.2013 to 31.3.2014 and estimated expenditure projected to be incurred during 2014-15 and 2015-16. The details of the expenditure are given below:-

(₹ in lakh)

Expenditure up to COD i.e. 1.4.2013	Expenditure from 1.4.2013 to 31.3.2014	Projected expenditure 2014-15	Projected expenditure 2015-16	Total estimated completion cost
33231.14	850.02	100.00	93.36	34274.52

Treatment of IDC

8. BRPL has submitted that vide order dated 7.7.2015 in Petition No. 290/TT/2013 the petitioner was directed to submit the amount of actual IDC paid up to the COD and balance after the COD. However, the claim of IDC is still on accrual basis and not on actual.

9. The expenditure claimed up to COD is the same as claimed in Petition No. 290/TT/2013. The accrued IDC of ₹564.24 lakh, which were disallowed vide order dated 7.7.2015, is indicated as included in the capital cost given in Auditor’s Certificate dated 18.9.2014. The petitioner, however, has submitted the revised additional capital expenditure beyond COD. The petitioner, vide affidavit



dated 16.6.2016, has submitted that the accrued IDC of ₹564.24 lakh as on COD, has been discharged during 2013-14 and the same should be included over and above the additional capital expenditure claimed for this year as per Auditor's Certificate dated 18.9.2014.

10. Accordingly, the IDC of ₹564.24 lakh which was disallowed as on COD is being considered along with the allowable additional capital expenditure during 2013-14.

Treatment of IEDC

11. The petitioner, vide affidavit dated 16.6.2016, has submitted details regarding Incidental Expenditure During Construction (IEDC) of ₹971.67 lakh as on COD which has already been admitted by the Commission, vide order dated 7.7.2015 in Petition No. 290/TT/2013 and the same is considered while calculating capital cost as on COD.

Initial Spares

12. Regulation 8 of the 2009 Tariff Regulations provides that:-

“Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

- (iv) Transmission system
 - (a) Transmission line - 0.75%
 - (b) Transmission Sub-station - 2.5%
 - (c) Series Compensation devices and HVDC Station - 3.5%.....”

13. The petitioner, vide Auditor's Certificate dated 18.9.2014, has claimed initial spares amounting to ₹291.45 lakh and ₹56.80 lakh for transmission line and sub-station respectively. Details of the initial spares claimed, the ceiling limit



specified in the 2009 Tariff Regulations and excess initial spares disallowed, are given below:-

(₹ in lakh)

Particulars	Capital cost claimed as on cut-off date / 31.3.2014	Initial spares claimed against capital cost Claimed as on Cut-off date / 31.3.2014	Ceiling limit as per 2009 Regulation	Initial spares worked out	Excess initial spares claimed and disallowed
Transmission Line	31288.59	291.45	0.75%	234.24	57.21
Sub-Station (including Building and PLCC)	2792.57	56.80	2.50%	70.15	-

14. The petitioner, vide affidavit dated 16.6.2016, has submitted the details of discharged initial spares liabilities, as below:-

(₹ in lakh)

Particulars	Transmission Lines	Sub station	Total
Up to COD	204.02	56.80	260.82
During 2013-14	58.29	0.00	58.29
During 2014-15 (Estimated)	21.16	0.00	21.16
During 2015-16 (Estimated)	7.98	0.00	7.98
Total	291.45	56.80	348.25

15. The details of initial spares allowed as on COD and considered as additional capital expenditure are as follows:-

(₹ in lakh)

Particulars	Transmission Lines	Sub station	Total
Initial Spares claimed	291.45	56.80	348.25
Excess Initial Spares Disallowed	57.21	-	57.21
Initial Spares allowable up to Cut off date	234.24	56.80	291.04
Initial Spares discharged up to COD	204.02	56.80	260.82
Allowable Limit of Initial Spares to be discharged	30.22	-	30.22



beyond COD (2013-14)			
Total allowable Initial Spares Discharged up to 31.03.2014	234.24	56.80	291.04

Additional Capital Expenditure

16. The petitioner has claimed additional capitalization under Regulation 9(1)(i) of the 2009 Tariff Regulations.

“Additional Capitalisation: (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital Spares within the original scope of work, subject to the provisions of Regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law.”

17. The 2009 Tariff Regulations further define cut-off date as-

“cut-off date means 31st March of the year closing after 2 years of the year of commercial operation of the project, and incase the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after 3 years of the year of commercial operation”.

18. The petitioner has submitted that the COD of the instant asset is 1.4.2013 and accordingly the "cut-off date" is 31.3.2016.

19. The additional capital expenditure incurred during the year 2013-14,2014-15 and 2015-16 is within "cut-off" date and is in line with Regulation 9(1)(i) of 2009 Tariff Regulations on account of balance and retention payment.



20. Accordingly, capital cost considered for the purpose of tariff in the instant petition, after adjustment of IDC on cash basis, scrutiny of IEDC and IDC on account of time over-run and scrutiny of initial spares (excess claim and un-discharged liability) are calculated as follows:-

Particulars	(₹ in lakh)	
	Amount	Amount
Capital cost claimed as on COD		33231.14
Less: Un-discharged IDC as on COD		564.24
Less: Initial Spares disallowed as on COD :		
(i) Excess Initial Spares	57.21	
(ii) Un-discharged Initial Spares	30.22	87.43
Capital cost allowable as on COD		32579.47
Add : Add Cap during 2013-14		
(i) Projected Add Cap claimed & allowed during 2013-14	850.02	
(ii) IDC discharged during 2013-14	564.24	
(iii) Initial Spares discharged during 2013-14	30.22	1444.48
Capital cost allowable as on 31.3.2014		34023.95

Debt: Equity

21. Clause 1 & 3 of Regulation 12 of the 2009 Tariff Regulations provides that:-

“12. **Debt-Equity Ratio.** (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

Explanation.- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount



and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

22. Debt Equity ratio of 70:30, as admitted in Petition No 290/TT/2013 has been considered as on 1.4.2009. For additional capital expenditure also, 70:30 ratio has been considered. The detail of Debt-Equity in line with Regulation 12 of 2009 Tariff Regulations as on date of commercial operation and 31.3.2014 of the instant asset is as follows:-

(₹ in lakh)

Particulars	%	As on COD	As on 31.3.2014
Debt	70.00	22805.63	23816.76
Equity	30.00	9773.84	10207.18
Total	100.00	32579.47	34023.95

Return on Equity (“ROE”)

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

“15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation:



Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(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 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."

24. Rajasthan Discoms has submitted that the petitioner has applied MAT rate for respective years and grossed up RoE at base rate. The actual tax applicable to the petitioner in terms of relevant Finance Act.

25. The petitioner has submitted the MAT rate applicable during the various years. Return on equity has been worked out by considering year wise MAT rate submitted by the petitioner in accordance with Regulation 15 of The 2009 Regulations.



26. The variation in the tax rate during the 2009-14 tariff block applicable to the petitioner as per the Finance Act of the relevant year for the purpose of grossing up of ROE has been furnished as under:-

Year	MAT Rate (in %)	Grossed up ROE (Base rate/(1-t) (in %))
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	20.960	19.610

27. The details of return on equity calculated are as follows:-

Particulars	(₹ in lakh)
	2013-14
Opening Equity	9773.84
Addition due to Additional Capitalization	433.34
Closing Equity	10207.18
Average Equity	9990.51
Return on Equity (Base Rate)	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%
Rate of Return on Equity (Pre Tax)	19.610%
Return on Equity (Pre Tax)	1959.14

Interest on Loan (“IOL”)

28. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan:-

“16. (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:



(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed,.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

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.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

29. The petitioner has claimed the interest on loan based on actual interest rates for each year during the 2009-14 period. We have relied on document submitted in support of interest rate and the same has been considered for tariff.



The methodology applied in the order dated 7.7.2015 in Petition No. 290/TT/2013 has been adopted.

30. Detailed calculations in support of the weighted average rates of interest have been given in Annexure-I to this order.

31. Based on the above, interest on loan has been calculated are given as follows:-

(₹ in lakh)

Particulars	2013-14
Gross Normative Loan	22805.63
Cumulative Repayment upto Previous Year	0.00
Net Loan-Opening	22805.63
Addition due to Additional Capitalization	1011.13
Repayment during the year	1752.11
Net Loan-Closing	22064.66
Average Loan	22435.14
Weighted Average Rate of Interest on Loan	8.9093%
Interest	1998.81

Depreciation

32. Regulation 17 of the 2009 Tariff Regulations provides as under:-

“17. **Depreciation** (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site;

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.



(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(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.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) 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.”

33. The instant asset has been put under commercial operation as on 1.4.2013 and depreciation has been worked out based on Straight Line Method as per 2009 Tariff Regulations.

34. Based on the above, the depreciation has been considered are as follows:-

(₹ in lakh)	
Particulars	2013-14
Opening Gross Block	32579.47
Additional Capital Expenditure	1444.47
Closing Gross Block	34023.95
Average Gross Block	33301.71
Rate of Depreciation	5.2613%
Depreciable Value	29971.54
Remaining Depreciable Value	29971.54
Depreciation	1752.11

Interest on working capital

35. The petitioner is entitled to claim interest on working capital as per the 2009 Tariff Regulations. The rate of interest on working capital considered is 13.20%.



The components of the working capital and interest thereon have been worked as per methodology provided in the Regulation 18 of the 2009 Tariff Regulations and allowed as under:-

(₹ in lakh)	
Particulars	2013-14
Maintenance Spares	58.48
O & M expenses	32.49
Receivables	1041.57
Total	1132.54
Interest	149.50

Transmission charges

36. The transmission charges being allowed for the assets are as follows:-

(₹ in lakh)	
Particulars	2013-14
Depreciation	1752.11
Interest on Loan	1998.81
Return on equity	1959.14
Interest on Working Capital	149.50
O & M Expenses	389.87
Total	6249.42

Annual Fixed Charges For 2014-19 Tariff Period

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1794.46	1799.57	1802.03	1802.03	1802.03
Interest on Loan	1891.32	1737.59	1580.28	1419.80	1259.24
Return on Equity	2006.40	2012.08	2014.83	2014.83	2014.83
Interest on Working Capital	150.67	148.04	145.21	142.21	139.24
O&M Expenses	355.73	367.61	379.78	392.39	405.40
Total	6198.58	6064.89	5922.13	5771.26	5620.74



38. 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	53.36	55.14	56.97	58.86	60.81
O & M Expenses	29.64	30.63	31.65	32.70	33.78
Receivables	1033.10	1010.82	987.02	961.88	936.79
Total	1116.10	1096.59	1075.64	1053.44	1031.38
Interest	150.67	148.04	145.21	142.21	139.24
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%

Capital Cost

39. 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.”

40. We have considered capital cost of ₹34023.95 lakh for the tariff determination for the 2014-19 tariff period and the same has been considered as opening capital cost as on 1.4.2014.



Additional Capital Expenditure

41. Sub-clause (i) of Clause 1 and sub-clause (ix) of Clause 3 of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

“(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

.....

(i) Undischarged liabilities recognized to be payable at a future date;

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

.....

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolescence of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system;

42. Rajasthan Discoms has submitted that the petition is relied on normative aspects and based on estimated additional capital expenditure from 1.4.2014 to 31.3.2019 which appears to be mere contextual rather than specifics.

43. BRPL has submitted that petitioner has claimed additional capital expenditure of ₹100 lakh during 2014-15 under Regulation 14(3)(i) of 2014 Tariff Regulations and ₹93.36 lakh under Regulation 14(3)(v) of 2014 Tariff Regulations towards balance and retention payments and it has no comments to make.



44. The petitioner has claimed projected additional capital expenditure of ₹100.00 lakh and ₹93.36 lakh for the 2014-15 and 2015-16 respectively, for 2014-19 tariff block. The "cut-off" date for the instant assets is 31.3.2016. The projected additional capital expenditure for the instant assets is within the "cut-off" date. The projected additional capital expenditure has been considered for the purpose of determination of tariff for 2014-19 tariff block, subject to prudence check at truing-up.

Debt- equity ratio

45. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”



"(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation"

46. Details of debt-equity in respect of the asset as on the date of commercial operation and as on 31.3.2019 are as follows:-

(₹ in lakh)

Particulars	%	As on 1.4.2014	As on 31.3.2019
Debt	70.00	23816.76	23952.12
Equity	30.00	10207.18	10265.19
Total	100.00	34023.95	34217.31

Additional capital expenditure has been considered in the debt-equity ratio of 70:30.

Return on equity

47. Clause (1) and (2) of Regulation 24 and Clause (1) and (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 and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

- i. in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
- ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:



- iv. the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
- v. as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
- vi. additional RoE shall not be admissible for transmission line having length of less than 50 kilometres.

“25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

“(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.”

48. The petitioner has submitted that RoE has been calculated at the rate of 19.610% after grossing up the RoE with MAT rate as per the above Regulations. 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.

49. 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.

50. 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 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 worked out is given below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	10207.18	10237.18	10265.19	10265.19	10265.19
Addition due to Additional Capitalization	30.00	28.01	0.00	0.00	0.00
Closing Equity	10237.18	10265.19	10265.19	10265.19	10265.19
Average Equity	10222.18	10251.19	10265.19	10265.19	10265.19



Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	2004.57	2010.26	2013.00	2013.00	2013.00

Interest on loan

51. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

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.”



52. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner's entitlement to interest on loan has been calculated on the following basis:-

(a) Gross amount of loan, repayment of instalments, rate of interest and weighted average rate of interest on actual loan have been considered as per the petition;

(b) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period;

(c) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan.

53. Detailed calculations in support of interest on loan have been given at Annexure.

54. The details of Interest on Loan calculated are as under:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	23816.76	23886.76	23952.12	23952.12	23952.12
Cumulative Repayment upto Previous Year	1752.11	3544.93	5342.86	7143.26	8943.66
Net Loan-Opening	22064.66	20341.83	18609.25	16808.85	15008.46
Addition due to Additional Capitalisation	70.00	65.35	0.00	0.00	0.00
Repayment during the year	1792.83	1797.93	1800.40	1800.40	1800.40
Net Loan-Closing	20341.83	18609.25	16808.85	15008.46	13208.06
Average Loan	21203.24	19475.54	17709.05	15908.66	14108.26
Weighted Average Rate of Interest on Loan	8.9122%	8.9142%	8.9159%	8.9171%	8.9180%
Interest on Loan	1889.69	1736.08	1578.92	1418.59	1258.18



Depreciation

55. 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."

For 2014-19 period depreciation has been worked out based on Straight Line Method duly considering the admitted capital cost, expenditure as on 31.3.2014 and accumulated depreciation upto 31.3.2014.

56. Based on the above, the depreciation has been considered are as follows:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	34023.95	34123.95	34217.31	34217.31	34217.31
Additional Capitalization	100.00	93.36	0.00	0.00	0.00
Closing Gross block	34123.95	34217.31	34217.31	34217.31	34217.31
Average Gross block	34073.95	34170.63	34217.31	34217.31	34217.31
Rate of Depreciation(%)	5.2616%	5.2616%	5.2617%	5.2617%	5.2617%
Depreciable Value	30666.55	30753.56	30795.57	30795.57	30795.57
Remaining Depreciable Value	28914.44	27208.63	25452.71	23652.31	21851.92
Depreciation	1792.83	1797.93	1800.40	1800.40	1800.40



Operation and Maintenance Expenses(O&M Expenses)

57. Clause 3(a) of Regulation 29 of 2014 Tariff Regulations specify norms for O&M Expenses for the transmission system. The normative O&M Expenses for assets covered in the petition are given below:-

(₹ in lakh)						
S.No	Element	2014-15	2015-16	2016-17	2017-18	2018-19
1.	D/C twin conductor T/L (lakh/kM)	0.707	0.731	0.755	0.78	0.806
2.	400 kV bays (₹ lakh/bay)	60.3	62.3	64.37	66.51	68.71

58. As per Regulation 29(4) of 2014 Tariff Regulations the allowable O&M Expenses for the assets covered are as under:-

(₹ in lakh)						
S. No	Element	2014-15	2015-16	2016-17	2017-18	2018-19
1.	161.99 KM D/C twin conductor Chamera Pooling Station (Chamba)-Jallandhar T/L	114.53	118.41	122.30	126.35	130.56
2.	4 Nos 400 kV bays	241.20	249.20	257.48	266.04	274.84
	Total	355.73	367.61	379.78	392.39	405.40

59. BRPL and Rajasthan Discoms have submitted that beneficiaries should not be unduly burdened over and above the provisions made in 2014 Tariff Regulations. BRPL has further submitted that increase in employee cost due to wage revision should be met by the petitioner by increasing the productivity.

60. 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 is due during the 2014-19 tariff period 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.

61. 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, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on Working Capital (IWC)

62. 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;”

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



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

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	53.36	55.14	56.97	58.86	60.81
O & M Expenses	29.64	30.63	31.65	32.70	33.78
Receivables	1032.23	1009.97	986.20	961.08	936.02
Total	1115.23	1095.74	1074.82	1052.64	1030.61
Interest	150.56	147.93	145.10	142.11	139.13
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%

Annual Transmission Charges for 2014-19

65. The annual transmission charges for the tariff period 2014-19 worked out as under:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1792.83	1797.93	1800.40	1800.40	1800.40
Interest on Loan	1889.69	1736.08	1578.92	1418.59	1258.18
Return on Equity	2004.57	2010.26	2013.00	2013.00	2013.00
Interest on Working Capital	150.56	147.93	145.10	142.11	139.13
O & M Expenses	355.73	367.61	379.78	392.39	405.40
Total	6193.37	6059.80	5917.21	5766.48	5616.11

Deferred Tax Liability

66. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized. The instant asset was commissioned on 1.4.2013 and hence the petitioner prayer is infructuous.



Filing Fee and Publication Expenses

67. 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 BRPL submitted that the filing fee shall be governed as per the Commission's order .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.

Foreign Exchange Rate Variation

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

Licence Fee and RLDC Fees and Charges

69. 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

70. 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.

Sharing of Transmission Charges

71. 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.

72. This order disposes of Petition No. 24/TT/2016.

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

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson



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

	Details of Loan	2013-14
1	Bond XXIX	
	Gross loan opening	1875.00
	Cumulative Repayment upto COD/previous year	156.25
	Net Loan-Opening	1718.75
	Additions during the year	0.00
	Repayment during the year	156.25
	Net Loan-Closing	1562.50
	Average Loan	1640.63
	Rate of Interest	9.20%
	Interest	150.94
	Rep Schedule	12 annual installments from 12.03.2013
2	Bond XXX	
	Gross loan opening	5247.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	5247.00
	Additions during the year	0.00
	Repayment during the year	437.25
	Net Loan-Closing	4809.75
	Average Loan	5028.38
	Rate of Interest	8.80%
	Interest	442.50
	Rep Schedule	12 annual installments from 29.09.2013
3	Bond XXXI	
	Gross loan opening	3240.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	3240.00
	Additions during the year	0.00
	Repayment during the year	270.00
	Net Loan-Closing	2970.00
	Average Loan	3105.00
	Rate of Interest	8.90%
	Interest	276.35
	Rep Schedule	12 annual installments from 25.02.2014
4	Bond XXXIII	
	Gross loan opening	1951.00



	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1951.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1951.00
	Average Loan	1951.00
	Rate of Interest	8.64%
	Interest	168.57
	Rep Schedule	12 annual installments from 08.07.2014
5	Bond XXXIV	
	Gross loan opening	5797.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	5797.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	5797.00
	Average Loan	5797.00
	Rate of Interest	8.84%
	Interest	512.45
	Rep Schedule	12 annual installments from 21.10.2014
6	Bond XXXVI	
	Gross loan opening	36.70
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	36.70
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	36.70
	Average Loan	36.70
	Rate of Interest	9.35%
	Interest	3.43
	Rep Schedule	15 annual installments from 29.08.2016.
7	Bond XXXVIII	
	Gross loan opening	1100.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1100.00
	Average Loan	1100.00
	Rate of Interest	9.25%
	Interest	101.75
	Rep Schedule	Bullet Payment as on 09.03.2027
8	Bond XL	



	Gross loan opening	568.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	568.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	568.00
	Average Loan	568.00
	Rate of Interest	9.30%
	Interest	52.82
	Rep Schedule	12 annual installments from 28.06.2016
9	Bond XXVIII	
	Gross loan opening	1385.00
	Cumulative Repayment upto COD/previous year	115.42
	Net Loan-Opening	1269.58
	Additions during the year	0.00
	Repayment during the year	115.42
	Net Loan-Closing	1154.16
	Average Loan	1211.87
	Rate of Interest	9.33%
	Interest	113.07
	Rep Schedule	12 annual installments from 15.12.2012
10	Bond XLI	
	Gross loan opening	318.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	318.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	318.00
	Average Loan	318.00
	Rate of Interest	8.85%
	Interest	28.14
	Rep Schedule	12 annual installments from 19.10.2016
11	Bond XLII (Add Cap 2013-14)	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	394.97
	Repayment during the year	0.00
	Net Loan-Closing	394.97
	Average Loan	197.49
	Rate of Interest	8.80%
	Interest	17.38
	Rep Schedule	Bullet Payment as on 13.03.2023
12	Bond XLII	



	Gross loan opening	1330.80
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1330.80
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1330.80
	Average Loan	1330.80
	Rate of Interest	8.80%
	Interest	117.11
	Rep Schedule	Bullet Payment as on 13.03.2023
13	Bond XLIII	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	150.00
	Repayment during the year	0.00
	Net Loan-Closing	150.00
	Average Loan	75.00
	Rate of Interest	7.93%
	Interest	5.95
	Rep Schedule	12 annual installments from 28.05.2017
13	Bond XLV (Add Cap 2013-14)	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	445.01
	Repayment during the year	0.00
	Net Loan-Closing	445.01
	Average Loan	222.51
	Rate of Interest	9.65%
	Interest	21.47
	Rep Schedule	12 annual installments from 28.02.2018
	Total Loan	
	Gross loan opening	22848.50
	Cumulative Repayment upto COD/previous year	271.67
	Net Loan-Opening	22576.83
	Additions during the year	989.98
	Repayment during the year	978.92
	Net Loan-Closing	22587.89
	Average Loan	22582.36
	Rate of Interest	8.9093%
	Interest	2011.93



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
1	Bond-XXVIII					
	Gross loan opening	1385.00	1385.00	1385.00	1385.00	1385.00
	Cumulative Repayment upto COD/previous year	230.84	346.26	461.67	577.09	692.51
	Net Loan-Opening	1154.16	1038.74	923.33	807.91	692.49
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	115.42	115.42	115.42	115.42	115.42
	Net Loan-Closing	1038.74	923.33	807.91	692.49	577.08
	Average Loan	1096.45	981.04	865.62	750.20	634.79
	Rate of Interest	9.33%	9.33%	9.33%	9.33%	9.33%
	Interest	102.30	91.53	80.76	69.99	59.23
	Rep Schedule	12 annual installments from 15.12.2012				
2	Bond-XXIX					
	Gross loan opening	1875.00	1875.00	1875.00	1875.00	1875.00
	Cumulative Repayment upto COD/previous year	312.50	468.75	625.00	781.25	937.50
	Net Loan-Opening	1562.50	1406.25	1250.00	1093.75	937.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	156.25	156.25	156.25	156.25	156.25
	Net Loan-Closing	1406.25	1250.00	1093.75	937.50	781.25
	Average Loan	1484.38	1328.13	1171.88	1015.63	859.38
	Rate of Interest	9.20%	9.20%	9.20%	9.20%	9.20%
	Interest	136.56	122.19	107.81	93.44	79.06
	Rep Schedule	12 annual installments from 12.03.2013				
3	Bond-XXX					
	Gross loan opening	5247.00	5247.00	5247.00	5247.00	5247.00
	Cumulative Repayment upto COD/previous year	437.25	874.50	1311.75	1749.00	2186.25
	Net Loan-Opening	4809.75	4372.50	3935.25	3498.00	3060.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	437.25	437.25	437.25	437.25	437.25
	Net Loan-Closing	4372.50	3935.25	3498.00	3060.75	2623.50
	Average Loan	4591.13	4153.88	3716.63	3279.38	2842.13
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	404.02	365.54	327.06	288.59	250.11
	Rep Schedule	12 annual installments from 29.09.2013				
4	Bond-XXXI					
	Gross loan opening	3240.00	3240.00	3240.00	3240.00	3240.00
	Cumulative Repayment upto COD/previous year	270.00	540.00	810.00	1080.00	1350.00
	Net Loan-Opening	2970.00	2700.00	2430.00	2160.00	1890.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	270.00	270.00	270.00	270.00	270.00



	Net Loan-Closing	2700.00	2430.00	2160.00	1890.00	1620.00
	Average Loan	2835.00	2565.00	2295.00	2025.00	1755.00
	Rate of Interest	8.90%	8.90%	8.90%	8.90%	8.90%
	Interest	252.32	228.29	204.26	180.23	156.20
	Rep Schedule	12 annual installments from 25.02.2014				
5	Bond-XXXIII					
	Gross loan opening	1951.00	1951.00	1951.00	1951.00	1951.00
	Cumulative Repayment upto COD/previous year	0.00	162.58	325.17	487.75	650.33
	Net Loan-Opening	1951.00	1788.42	1625.83	1463.25	1300.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	162.58	162.58	162.58	162.58	162.58
	Net Loan-Closing	1788.42	1625.83	1463.25	1300.67	1138.08
	Average Loan	1869.71	1707.13	1544.54	1381.96	1219.38
	Rate of Interest	8.64%	8.64%	8.64%	8.64%	8.64%
	Interest	161.54	147.50	133.45	119.40	105.35
	Rep Schedule	12 annual installments from 08.07.2014				
6	Bond-XXXIV					
	Gross loan opening	5797.00	5797.00	5797.00	5797.00	5797.00
	Cumulative Repayment upto COD/previous year	0.00	483.08	966.17	1449.25	1932.33
	Net Loan-Opening	5797.00	5313.92	4830.83	4347.75	3864.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	483.08	483.08	483.08	483.08	483.08
	Net Loan-Closing	5313.92	4830.83	4347.75	3864.67	3381.58
	Average Loan	5555.46	5072.38	4589.29	4106.21	3623.13
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	491.10	448.40	405.69	362.99	320.28
	Rep Schedule	12 annual installments from 21.10.2014				
7	Bond-XXXVI					
	Gross loan opening	36.70	36.70	36.70	36.70	36.70
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	2.45	4.89
	Net Loan-Opening	36.70	36.70	36.70	34.25	31.81
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	2.45	2.45	2.45
	Net Loan-Closing	36.70	36.70	34.25	31.81	29.36
	Average Loan	36.70	36.70	35.48	33.03	30.58
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	3.43	3.43	3.32	3.09	2.86
	Rep Schedule	15 annual installments from 29.08.2016				
8	Bond-XXXVIII					
	Gross loan opening	1100.00	1100.00	1100.00	1100.00	1100.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	1100.00	1100.00	1100.00	1100.00	1100.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	1100.00	1100.00	1100.00	1100.00	1100.00



	Average Loan	1100.00	1100.00	1100.00	1100.00	1100.00
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	101.75	101.75	101.75	101.75	101.75
	Rep Schedule	Bullet Payment as on 09.03.2027				
9	Bond-XL					
	Gross loan opening	568.00	568.00	568.00	568.00	568.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	47.33	94.67
	Net Loan-Opening	568.00	568.00	568.00	520.67	473.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	47.33	47.33	47.33
	Net Loan-Closing	568.00	568.00	520.67	473.33	426.00
	Average Loan	568.00	568.00	544.33	497.00	449.67
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	52.82	52.82	50.62	46.22	41.82
	Rep Schedule	12 annual installments from 28.06.2016				
10	Bond-XLI					
	Gross loan opening	318.00	318.00	318.00	318.00	318.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	26.50	53.00
	Net Loan-Opening	318.00	318.00	318.00	291.50	265.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	26.50	26.50	26.50
	Net Loan-Closing	318.00	318.00	291.50	265.00	238.50
	Average Loan	318.00	318.00	304.75	278.25	251.75
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	28.14	28.14	26.97	24.63	22.28
	Rep Schedule	12 annual installments from 19.10.2016				
11	Bond-XLII (For Add Cap 2013-14)					
	Gross loan opening	394.97	394.97	394.97	394.97	394.97
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	394.97	394.97	394.97	394.97	394.97
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	394.97	394.97	394.97	394.97	394.97
	Average Loan	394.97	394.97	394.97	394.97	394.97
	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	34.76	34.76	34.76	34.76	34.76
	Rep Schedule	Bullet Payment as on 13.03.2023				
12	Bond-XLII					
	Gross loan opening	1330.80	1330.80	1330.80	1330.80	1330.80
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	1330.80	1330.80	1330.80	1330.80	1330.80
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	1330.80	1330.80	1330.80	1330.80	1330.80
	Average Loan	1330.80	1330.80	1330.80	1330.80	1330.80



	Rate of Interest	8.80%	8.80%	8.80%	8.80%	8.80%
	Interest	117.11	117.11	117.11	117.11	117.11
	Rep Schedule	Bullet Payment as on 13.03.2023				
13	Bond-XLIII (For Add Cap 2013-14)					
	Gross loan opening	150.00	150.00	150.00	150.00	150.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	12.50
	Net Loan-Opening	150.00	150.00	150.00	150.00	137.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	12.50	12.50
	Net Loan-Closing	150.00	150.00	150.00	137.50	125.00
	Average Loan	150.00	150.00	150.00	143.75	131.25
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	11.90	11.90	11.90	11.40	10.41
	Rep Schedule	12 annual installments from 18.05.2017				
14	Bond-XLV (For Add Cap 2013-14)					
	Gross loan opening	445.01	445.01	445.01	445.01	445.01
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	37.08
	Net Loan-Opening	445.01	445.01	445.01	445.01	407.93
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	37.08	37.08
	Net Loan-Closing	445.01	445.01	445.01	407.93	370.84
	Average Loan	445.01	445.01	445.01	426.47	389.38
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	42.94	42.94	42.94	41.15	37.58
	Rep Schedule	12 annual installments from 28.02.2018				
	Total Loan					
	Gross loan opening	23838.48	23838.48	23838.48	23838.48	23838.48
	Cumulative Repayment upto COD/previous year	1250.59	2875.17	4499.76	6200.62	7951.07
	Net Loan-Opening	22587.89	20963.31	19338.72	17637.86	15887.41
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1624.58	1624.58	1700.86	1750.45	1750.45
	Net Loan-Closing	20963.31	19338.72	17637.86	15887.41	14136.97
	Average Loan	21775.60	20151.02	18488.29	16762.64	15012.19
	Weighted Average Rate of Interest	8.9122%	8.9142%	8.9159%	8.9171%	8.9180%
	Interest	1940.70	1796.29	1648.40	1494.74	1338.79

