

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 91/TT/2017**

**Coram:**

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

**Date of Order : 31.10.2017**

**In the matter of:**

Truing up of transmission tariff of 2009-14 tariff period under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for Barh-Balia 400 kV D/C Quad Transmission line along-with associated bays at Balia Sub-station under transmission System associated with Barh Generation Project (3x660 MW) in Eastern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

**And in the matter of:**

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

.....**Petitioner**

**Vs**

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 Electricity Board  
The Mall, Patiala - 147 001
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 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 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 Ltd.  
Urja Bhawan, Kanwali Road,  
Dehradun.
16. North Central Railway,  
Allahabad.
17. New Delhi Municipal Council  
Palika Kendra, Sansad Marg,  
New Delhi-110002.
18. National Thermal Power Corporation  
4th Floor, 6th Core NTPC Bhawan,  
Scope Complex Institutional Area , Lodhi Road,  
Delhi- 110003

.....**Respondents**

**For Petitioner** : Shri S.K. Venkatesan, PGCIL  
Shri S. S. Raju, PGCIL  
Shri Rakesh Prasad, PGCIL

**For Respondents** : None

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for truing up of capital expenditure of 2009-14 tariff period for Barh-Balia 400 kV D/C Quad Transmission line along-with associated bays at Balia Sub-station under transmission System associated with Barh Generation Project (3x660 MW) in Eastern Region (hereinafter referred to as "asset") under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations") based on actual capital expenditure for the period from COD to 31.3.2014 and for determination of tariff for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of



Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

**Background of the case**

2. A brief background of the instant assets are as follows:-
  - (a) The petitioner completed 400 kV Barh-Balia D/C line and charged the line from Balia end on 30.6.2010 and claimed transmission tariff for 2009-14 period in Petition No. 267/2010 considering the COD as 1.7.2010. The transmission tariff for the said asset was granted vide order dated 29.4.2011.
  - (b) Punjab State Power Corporation Limited (PSPCL) filed an Appeal No. 123 of 2011 before the Hon’ble Appellate Tribunal for Electricity (APTEL) against the Commission’s order dated 29.4.2011 on the issue of COD of the transmission asset. PSPCL submitted before APTEL that the instant line was idle charged and not loaded from both ends as on 1.7.2010.
  - (c) APTEL, vide judgment dated 2.7.2012 in Appeal No. 123 of 2011 set aside the Commission’s order dated 29.4.2011 and remanded the matter back the matter to the Commission for re-determining the COD of the instant asset.
  - (d) Subsequently, the petitioner filed Civil Appeals No. 9302 of 2012 and Appeals No. 9193 of 2012 before the Hon’ble Supreme Court against



the APTEL's judgment. The Supreme Court, vide order dated 15.3.2013 stayed the proceeding before the Commission during the pendency of the Appeal.

- (e) In the meanwhile, RCE for the Barh-Balia Transmission System was approved by the petitioner's Board of Directors and the petitioner filed Petition No. 227/2013 before the Commission seeking final tariff for the Barh-Balia Transmission System.
- (f) Later, the petitioner filed a Civil Appeal before the Supreme Court seeking modification of the order dated 15.3.2013. The Supreme Court, vide order dated 8.10.2013, directed the Commission to proceed with the determination of transmission tariff of the instant asset.
- (g) Accordingly, the Commission, vide order dated 30.6.2015 in Petition Nos. 267/2010 and 227/TT/2013, re-determined the COD as 1.9.2011 and revised final transmission tariff based on the admitted capital cost of ₹73594.00 lakh as on COD. Add cap of ₹300.70 lakh and ₹400 lakh for the year 2012-13 and 2013-14 respectively were disallowed and restricted to revised apportioned approved cost i.e. ₹73594.00 lakh.
- (h) Final tariff was allowed for the instant transmission assets for the period 1.4.2009 to 31.3.2014 vide order dated 30.6.2015 in Petition No. 267/2010 and 227/TT/2013, where the petitioner had submitted the capital cost as on COD and details of projected capital expenditure.



The tariff allowed for the instant assets from 1.9.2011 to 31.3.2014 are as follows:-

Particulars	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	2267.01	3886.30	3886.30
Interest on Loan	2252.86	3609.37	3284.21
Return on Equity	2251.37	3859.49	3859.49
Interest on Working Capital	145.66	245.67	240.25
O & M Expenses	217.10	393.44	415.81
<b>Total</b>	<b>7133.99</b>	<b>11994.28</b>	<b>11686.06</b>

3. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003 ("the Act"). The petitioner has served the petition on the respondents. Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No. 9 has filed reply vide affidavit dated 1.5.2017. UPPCL has raised the issue of additional capital expenditure during 2009-14 and 2014-19 tariff periods and the rate of interest of loans availed. The petitioner has filed its rejoinder to the reply filed by UPPCL vide affidavit dated 18.5.2017. The issues raised by UPPCL and the clarification given by the petitioner are dealt in the respective paragraphs of the order.

4. The hearing in the matter was held on 23.5.2017. Having heard the representatives of the petitioner, respondents and perused the material on record, we proceed to dispose of the petition.

#### **Truing-up of Annual Fixed Charges of 2009-14 tariff period**

5. The tariff of 2009-14 has been trued up as discussed below.



## **Capital Cost**

6. Regulation 6 of the 2009 Tariff Regulations provides as under:-

### **“6. Truing up of Capital Expenditure and Tariff.**

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.

Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013- 14 for revision of tariff.

(2) The generating company or the transmission licensee, as the case may be, shall make an application, as per Appendix I to these regulations, for carrying out truing up exercise in respect of the generating station a unit or block thereof or the transmission system or the transmission lines or sub-stations thereof by 31.10.2014;

(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;

(4) Where after the truing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company or the transmission licensee, as the case may be, shall refund to the beneficiaries or the transmission customers, as the case may be, the excess amount so recovered along with simple interest at the rates specified in the proviso to this regulation.

(5) Where after the truing up, the tariff recovered is less than the tariff approved by the Commission under these regulations, the generating company or the transmission licensee, as the case may be, shall recover from the beneficiaries or the transmission customers, as the case may be, the under-recovered amount along with simple interest at the rates specified in the proviso to this regulation.

(6) The amount under-recovered or over-recovered, along with simple interest at the rates specified in the proviso to this regulation, shall be recovered or refunded by the generating company or the transmission licensee, as the case may be, in six equal monthly installments starting within three months from Page 3 of 6 the date of the tariff order issued by the Commission after the truing up exercise.

Provided that the rate of interest, for clauses (4), (5) and (6) of this regulation, for calculation of simple interest shall be considered as under:

(i) SBI short-term Prime Lending Rate as on 01.04.2009 for the year 2009-10.

(ii) SBI Base Rate as on 01.07.2010 plus 350 basis points for the year 2010-11.



(iii) Monthly average SBI Base Rate from 01.07.2010 to 31.3.2011 plus 350 basis points for the year 2011-12.

(iv) Monthly average SBI Base Rate during previous year plus 350 basis points for the year 2012-13 & 2013-14.”

7. The details of the revised approved apportioned cost, cost as on COD and estimated/projected additional capitalization to be incurred for the instant assets as per Auditor's Certificate dated 18.4.2016, is as follows:-

(₹ in lakh)

Revised Apportioned Approved Cost (RCE-III)	Expenditure up to COD	Additional Capitalization		Projected Expenditure			Estimated Capital Cost
		2012-13	2013-14	2014-16	2016-17	2017-19	
77131.03	76111.10	300.70	0.00	0.00	400.00	0.00	76811.80

\*The capital expenditure has been verified from the Audited figures of accounts by the Auditor, up to 31.3.2015.

8. The total completion cost of the instant assets incurred up to 31.3.2019 is within its revised apportioned approved cost (RCE-III). Hence, there is no cost over-run in the commissioning of the asset.

### **Time over-run**

9. As stated above, there is time over-run of 23 months in commissioning of the instant assets and the same was condoned by the Commission in order dated 30.6.2015. However, IDC and IEDC for 6 months from 1.7.2010 to 31.12.2010 were to be borne by NTPC and not to be capitalized. The IDC and IEDC for balance period i.e. 1.10.2009 to 30.6.2010 and 1.1.2009 to 31.8.2011 was allowed to be capitalized.





### **Interest During Construction (IDC)**

10. The petitioner, vide affidavit dated 16.6.2017, has submitted the information related to IDC and the details of IDC discharged upto COD and IDC discharged after COD i.e. in 2011-12 and 2012-13. The IDC on cash basis up to COD has been worked out based on the available information, i.e. loan details in Form-13 and the working sheet of the IDC submitted by the petitioner. While working out the IDC, we have considered respective loan's repayment schedule. The IDC has been worked out after condoning 23 months delay and deducting 6 months IDC, which is to be borne by NTPC, which amounts to ₹1863.44 lakh as per the Auditor certificate dated 15.7.2015, which has been already paid by NTPC to the petitioner.

11. As the details of date of drawl of IBRD-III and IBRD-IV loans have not been submitted by the petitioner, IDC against the foreign loans has been calculated assuming date of investment approval as the drawl of date. The IDC claimed by the petitioner is less than the IDC worked out, accordingly the IDC claimed by the petitioner is allowed. The details of the allowable/worked out IDC for the instant assets are as follows:-

(₹ In lakh)

Claimed as on COD as per the Auditor's Certificates 18.4.2016	Discharged up to COD (as claimed)	Allowed/ Worked out on Cash Basis	Balance Accrued IDC as on COD discharged during 2011-12 (as claimed)	Balance Accrued IDC being discharged during 2011-12 (as allowed)	Balance Accrued IDC as on COD discharged during 2012-13 (as claimed)	Balance Accrued IDC being discharged during 2012-13 (as allowed)
14789.54	13221.41	13221.41	1327.60	1327.60	240.53	240.53



12. The IDC worked out as on COD has been reduced from ₹1863.44 lakh and therefore, the IDC being capitalized as on COD is ₹13221.41 lakh-₹1863.44 lakh=₹11357.97 lakh.

### **Incidental Expenditure during Construction (IEDC)**

13. As in the case of other transmission tariff petitions, 5.00% of the Hard Cost is considered as IEDC limit as provided in the abstract cost estimate. The IEDC claimed by the petitioner is lower than 5.00% of the hard cost as on COD. Accordingly, the IEDC of ₹1813.86 claimed by the petitioner is allowed. However, IEDC for 6 months i.e. ₹191.66 lakh has been reduced from the total IEDC to be allowed as on COD. Therefore, the IEDC capitalized as on COD is ₹1813.86 lakh-₹191.66 lakh= ₹1622.20 lakh.

### **Initial Spares**

14. 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:-

Transmission Sub-station	2.5%
Transmission line	0.75%

15. The petitioner has claimed initial spares for the asset as per the 2009 Tariff Regulations. The petitioner has also submitted the year wise payment made against the initial spares for the instant asset and has submitted that the whole amount of initial spares was discharged as on COD. The petitioner has claimed ₹407.86 lakh and ₹20.99 lakh towards initial spares up to cut-off date, for



transmission line and sub-station respectively. The initial spares claimed by the petitioner are within the specified ceiling limits and therefore the same are allowed to be capitalized.

### **Capital Cost allowed as on COD**

16. The capital cost considered as on COD after allowing the IDC and IEDC on cash basis, is as follows:-

(₹ In lakh)

Capital Cost claimed as on COD	Less: Claimed IDC	Less: Claimed IEDC	Add: Allowable IDC	Add: Allowable IEDC	Capital Cost as on COD considering Allowable IDC & IEDC
76111.10	14789.54	1813.86	11357.97	1622.20	72487.87

### **Additional capital expenditure**

17. Clause (1) of Regulation 9 of the 2009 Tariff Regulations provides as under:-

“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.”

18. Clause (11) of Regulation 3 of the 2009 Tariff Regulations defines “cut-off” date as under:-

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



19. The “cut-off” in case of the instant assets is 31.3.2014.

20. UPPCL has submitted that the petitioner’s claim of add cap of 300 lakh should not be allowed unless the details are submitted by the petitioner. In response, the petitioner has submitted that the amount claimed is towards balance and retention payment and within the cut-off date and it may be allowed under Regulation 9(1) of the 2009 Tariff Regulations. As the additional capitalisation claimed is for balance and retention payments and it within the cut-off date, the petitioner’s claim is allowed. The following capital cost as on COD and additional capitalisation during 2009-14 have been considered for the purpose of computation of tariff:-

(₹ In lakh)										
Capital cost as on COD	2011-12			2012-13			2013-14			Capital cost as on 31.3.2014
	Add cap claimed	Add: Allowed IDC on cash basis	Add cap allowed	Add cap claimed	Add: Allowed IDC on cash basis	Add cap allowed	Add cap claimed	Add: Allowed IDC on cash basis	Add cap allowed	
72487.87	0.00	1327.60	1327.60	300.70	240.53	541.23	0.00	0.00	0.00	74356.70

**Debt: Equity Ratio**

21. Regulation 12(1) of the 2009 Tariff Regulations provides as follows:-

**“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.”

22. The debt:equity ratio of 70:30 allowed vide order dated 30.6.2015 and in Petition Nos. 267/2010 and 227/TT/2013 has been trued up as provided in Regulation 12(1) of the 2009 Tariff Regulations. The debt:equity ratio as on COD considered for the purpose of truing up of the tariff of the 2009-14 tariff period is as under:-

(₹ in lakh)

Particulars	Capital cost as on tariff COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	50741.51	70.00	52049.69	70.00
Equity	21746.36	30.00	22307.01	30.00
<b>Total</b>	<b>72487.87</b>	<b>100.00</b>	<b>74356.70</b>	<b>100.00</b>

### **Return on Equity (ROE)**

23. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provides 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 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. 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 Tariff Regulations. The variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act of the relevant year for the purpose of grossing up of ROE is as follows:-

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	20.961	19.610

25. The trued up ROE allowed for the instant transmission assets is given below:-

Particulars	(₹ in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Opening Equity	21746.36	22144.64	22307.01
Addition due to Additional Capitalization	398.28	162.37	0.00
Closing Equity	22144.64	22307.01	22307.01
Average Equity	21945.50	22225.83	22307.01



Return on Equity (Base Rate )	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.01%	20.01%	20.96%
Rate of Return on Equity (Pre-tax )	19.377%	19.377%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>2480.55</b>	<b>4306.70</b>	<b>4374.40</b>

### **Interest on Loan (“IOL”)**

26. Regulation 16 of the 2009 Tariff regulations provides that,-

“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.”

27. The petitioner has claimed the IOL based on actual interest rates for each year during the 2009-14 period. We have considered the submissions of the petitioner and accordingly calculated the IOL based on actual interest rate, in accordance with Regulation 16 of the 2009 Tariff Regulations.

28. In the calculations, the interest on loan has been worked out as detailed below:-

- (i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;
- (ii) Weighted average rate of interest on actual average loan worked out as per (i) above, is applied on the notional average loan during the year to arrive at the interest on loan.
- (iii) The repayment for the tariff period 2009-14 has been considered to be equal to the depreciation allowed for that period.





29. The details of weighted average rate of interest are given in **Annexure-I**. The IOL allowed under Regulation 16 of the 2009 Tariff Regulations is as follows:-

Particulars	(₹ in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Gross Normative Loan	50741.51	51670.83	52049.69
Cumulative Repayment upto Previous Year	0.00	2253.38	6165.66
Net Loan-Opening	50741.51	49417.45	45884.03
Addition due to Additional capitalisation	929.32	378.86	0.00
Repayment during the year	2253.38	3912.28	3926.57
Net Loan-Closing	49417.45	45884.03	41957.45
Average Loan	50079.48	47650.74	43920.74
Weighted Average Rate of Interest on Loan	7.3873%	7.3808%	7.1968%
<b>Interest</b>	<b>2158.05</b>	<b>3517.01</b>	<b>3160.89</b>

### Depreciation

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

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

- |  |           |
|--|-----------|
| (a) Coal/Lignite based thermal generating station    | 25 years  |
| (b) Gas/Liquid fuel based thermal generating station | 25 years  |
| (c) AC and DC sub-station                            | 25 years  |
| (d) Hydro generating station                         | 35 years  |
| (e) Transmission line                                | 35 years” |

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

"(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.”



32. Instant assets were put under commercial operation on 1.9.2011 and would complete 12 years beyond 2013-14. Accordingly, depreciation has been calculated annually based on Straight Line Method and at rates specified in the 2009 Tariff Regulations. The depreciation for the tariff period 2009-14 has been trued up in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:-

Particulars	(₹ in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
Opening Gross Block	72487.87	73815.47	74356.70
Addition during 2009-14 due to Projected Additional Capitalisation	1327.60	541.23	0.00
Closing Gross Block	73815.47	74356.70	74356.70
Average Gross Block	73151.67	74086.09	74356.70
Rate of Depreciation	5.2807%	5.2807%	5.2807%
Depreciable Value	65836.50	66677.48	66921.03
Remaining Depreciable Value	65836.50	64424.09	60755.37
Depreciation	<b>2253.38</b>	<b>3912.28</b>	<b>3926.57</b>

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

33. The petitioner has claimed the same O&M Expenses that was approved in orders dated 30.6.2015 in Petition No. 267/2010 and 227/TT/2013 for the 2009-14 period. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-

Particulars	(₹ in lakh)		
	2011-12 (pro-rata)	2012-13	2013-14
O&M Expenses trued up	217.10	393.44	415.81



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

34. The petitioner is entitled to claim interest on working capital as per Regulation 18 of the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder:-

#### **(i) Receivables**

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months' annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

#### **(ii) Maintenance spares**

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

#### **(iii) O&M Expenses**

O&M expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.



**(iv) Rate of interest on working capital**

The SBI Base rate 8.25% as on 1.4.2011 plus 350 bps i.e. 11.75% has been considered for the asset, as the rate of interest on working capital.

35. The IWC trued up is as under:-

(₹ in lakh)			
Particulars	2011-12 (pro-rata)	2012-13	2013-14
Maintenance Spares	55.83	59.02	62.37
O & M expenses	31.01	32.79	34.65
Receivables	2073.47	2063.79	2021.09
<b>Total</b>	<b>2160.31</b>	<b>2155.59</b>	<b>2118.11</b>
Interest	148.07	253.28	248.88

**Annual Transmission charges**

36. In view of above, the annual transmission charges after truing up for the 2009-14 tariff period is as under:-

(₹ in lakh)			
Particulars	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	2253.38	3912.28	3926.57
Interest on Loan	2158.05	3517.01	3160.89
Return on Equity	2480.55	4306.70	4374.40
Interest on Working Capital	148.07	253.28	248.88
O & M Expenses	217.10	393.44	415.81
<b>Total</b>	<b>7257.16</b>	<b>12382.71</b>	<b>12126.55</b>

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

**Capital Cost as on 1.4.2014**

37. 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.”

38. The admitted capital cost of ₹74356.70 as on 31.3.2014 worked out above has been considered as opening capital cost as on 1.4.2014.

### **Projected Additional Capital Expenditure**

39. Clause (2) and (3) of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

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

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
- (ii) Change in law or compliance of any existing law;
- (iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and
- (iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(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:

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
- (ii) Change in law or compliance of any existing law;



- (iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;
  - (iv) Deferred works relating to ash pond or ash handling system in the original scope of work;
  - (v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;
  - (vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments
- .....”

40. The petitioner has claimed ₹400 lakh as additional capital expenditure during 2016-17. The petitioner vide affidavit dated 17.10.2017 has submitted that a provision for ₹400 lakh was made under Regulation 14(2)(i) of the 2014 Tariff Regulations to meet the contractual obligations in an arbitration case with Jyoti Structure Ltd. The petitioner has further submitted that the arbitration process has not concluded and likely to take some time and the details of the actual expenditure alongwith the details of award in the arbitration proceedings will be submitted at the time of truing up of the tariff at the end of 2014-19 tariff period. The petitioner has prayed to allow the same under Regulation 14(2)(i) of the 2014 Tariff Regulations. UPPCL has submitted that the additional capital expenditure during 2014-19 may not be allowed as the petitioner has not submitted the details of add cap. The petitioner has clarified that the additional capital expenditure of ₹400 lakh which is beyond the cut-off date is covered under Regulation 14(2)(i) of the 2014 Tariff Regulations and it is under arbitration. We have considered the submissions of the petitioner and UPPCL. The petitioner has claimed additional capital expenditure of ₹400 lakh after the cut-off date under Regulation 14(2)(i) of the 2014 Tariff Regulations. Regulation



14(2) of the 2014 Tariff Regulations pertains to deals with the capital expenditure incurred or projected to be incurred in case of new projects within the original scope of work after the cut-off date. The instant assets were put into commercial operation during the 2009-14 and it is an existing project and accordingly the relevant provision is Regulation 14(3) and not Regulation 14(2) of the 2014 Tariff Regulations. Further, the petitioner has not incurred the projected additional capital expenditure of ₹400 lakh during 2016-17 and the as per the petitioner's latest submissions, the amount is also not certain. Hence, we are not inclined to allow the petitioner's claim at this stage. The same will be considered at the truing up stage after the petitioner submits the details of actual expenditure. Therefore, no additional capitalization during 2014-19 period is allowed in this order.

41. The total completion cost of the asset incurred up to 31.3.2017, is within its revised apportioned approved cost (RCE-III). Hence, there is no cost over-run in the instant case.

### **Debt:Equity Ratio**

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

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”



43. The petitioner has considered debt:equity ratio of 70:30 as on 31.3.2014 for the combined assets. The admitted debt:equity ratio of 70:30 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. For additional capitalization, the petitioner has proposed normative debt:equity ratio of 70:30 and the same has been considered. The details of the debt:equity as on 1.4.2014 considered for the purpose of determination of tariff for the 2014-19 tariff period and as on 31.3.2019 are as follows:-

(₹ in lakh)			
Particulars	Ratio (%)	As on 1.4.2014	As on 31.3.2019
Debt	70.00	52049.69	52049.69
Equity	30.00	22307.01	22307.01
<b>Total</b>	<b>100.00</b>	<b>74356.70</b>	<b>74356.70</b>

#### **Return on Equity (“RoE”)**

44. Clause (1) & (2) of Regulation 24 and Clause (2) and (3) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

##### **“24. Return on Equity:**

(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system”

##### **“25. Tax on Return on Equity:**

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

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

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





company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.

xxxx

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis.”

45. The petitioner has submitted that it is liable to pay income tax at MAT rate, the RoE has been calculated @ 19.610% after grossing up the RoE with MAT rate of 20.961% during 2013-14, as provided under Regulation 25(2)(i) of the 2014 Tariff Regulations. As per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up rate of RoE at the end of the financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the 2014-19 period on actual gross income of any financial year. 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.

46. We have considered the submissions made by the petitioner. The RoE has been worked out in accordance with Regulation 24 and Regulation 25 of the 2014 Regulations. The rate of pre-tax return on equity for 2014-19 period has



been determined by grossing up the base rate of 15.00% with effective tax rate of 20.961% (i.e. MAT rate applicable for the financial year 2013-14). This rate of pre-tax return on equity is subject to true up based on the effective tax rate of respective financial year applicable to the petitioner company

47. Accordingly, the following ROE is allowed for the instant asset for the 2014-19 tariff period:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	22307.01	22307.01	22307.01	22307.01	22307.01
Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Equity	22307.01	22307.01	22307.01	22307.01	22307.01
Average Equity	22307.01	22307.01	22307.01	22307.01	22307.01
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the financial year 2013-14 (%)	20.9605%	20.9605%	20.9605%	20.9605%	20.9605%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (Pre-tax)</b>	<b>4374.40</b>	<b>4374.40</b>	<b>4374.40</b>	<b>4374.40</b>	<b>4374.40</b>

### **Interest on Loan (“IOL”)**

48. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations provides 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.”

49. UPPCL has submitted that the loan portfolio of the petitioner bears fixed rate of interest for the entire tariff period and there is no occasion for application of floating rate of interest. In response, the petitioner has submitted that the loans deployed are combination of fixed interest rate (Bonds) and floating interest rate (SBI) and it may be allowed bill and adjust impact of interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period. We have considered the submissions of UPPCL and the petitioner. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations by actual weighted average rate of interest during the 2014-15.

50. In the calculations, the interest on loan has been worked out as detailed below:-

- (i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.
- (ii) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that year.
- (iii) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the normative average loan during the year to arrive at the interest on loan.



51. The details of weighted average rate of interest are placed at **Annexure-II**.

The IOL allowed for the instant asset for the 2014-19 tariff period is as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	52049.69	52049.69	52049.69	52049.69	52049.69
Cumulative Repayment upto previous year	10092.24	14018.81	17945.38	21871.95	25798.53
Net Loan-Opening	41957.45	38030.88	34104.31	30177.74	26251.16
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	3926.57	3926.57	3926.57	3926.57	3926.57
Net Loan-Closing	38030.88	34104.31	30177.74	26251.16	22324.59
Average Loan	39994.17	36067.59	32141.02	28214.45	24287.88
Rate of Interest (%)	7.0816%	6.9755%	6.8482%	6.6899%	6.4836%
<b>Interest</b>	<b>2832.24</b>	<b>2515.91</b>	<b>2201.08</b>	<b>1887.51</b>	<b>1574.72</b>

### **Depreciation**

52. 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."

53. The details of the depreciation allowed for the instant asset for the 2014-19 tariff period are given hereunder:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	74356.70	74356.70	74356.70	74356.70	74356.70
Addition during 2014-19 due to Projected Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	74356.70	74356.70	74356.70	74356.70	74356.70
Average Gross Block	74356.70	74356.70	74356.70	74356.70	74356.70
Rate of Depreciation	5.2807%	5.2807%	5.2807%	5.2807%	5.2807%
Depreciable Value	66921.03	66921.03	66921.03	66921.03	66921.03
Remaining Depreciable Value	56828.79	52902.22	48975.65	45049.08	41122.50
Depreciation	<b>3926.57</b>	<b>3926.57</b>	<b>3926.57</b>	<b>3926.57</b>	<b>3926.57</b>

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

54. 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 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company 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.

55. We have considered the submissions of the petitioner. 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. The petitioner has claimed O&M Expenses as specified in Regulation 29(4) of the 2014 Tariff Regulations and accordingly, the same is considered for the purpose of computation of tariff.



56. The O&M Expenses claimed by the petitioner for the 2014-19 period are as follows:-

(₹ in lakh)				
O&M Expenses				
2014-15	2015-16	2016-17	2017-18	2018-19
378.31	390.80	403.68	417.18	431.04

57. The above mentioned O&M Expenses claimed by the petitioner are within the ceiling limits specified in the 2014 Tariff Regulations and hence it is allowed.

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

58. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-

#### **“28. Interest on Working Capital**

(c)(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

“(5) Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

59. The petitioner is entitled to claim interest on working capital as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:-

#### **(i) Maintenance spares**

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

#### **(ii) O & M expenses**



Operation and maintenance expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

### **(iii) Receivables**

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months' annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

### **(iv) Rate of interest on working capital**

As provided in Regulation 28(3) of the 2014 Tariff Regulations, SBI Base Rate (10.00%) as on 1.4.2014 plus 350 Bps i.e. 13.50 % have been considered as the rate of interest on working capital.

60. The IWC allowed for the combined assets is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	56.75	58.62	60.55	62.58	64.66
O & M expenses	31.53	32.57	33.64	34.77	35.92
Receivables	1964.78	1913.04	1861.63	1810.54	1759.64
Total	2053.05	2004.23	1955.82	1907.88	1860.22
<b>Interest</b>	<b>277.16</b>	<b>270.57</b>	<b>264.04</b>	<b>257.56</b>	<b>251.13</b>

### **Annual Transmission Charges**

61. The details of Annual Transmission Charges allowed for the combined assets for the 2014-19 tariff period is summarised below:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3926.57	3926.57	3926.57	3926.57	3926.57
Interest on Loan	2832.24	2515.91	2201.08	1887.51	1574.72
Return on Equity	4374.40	4374.40	4374.40	4374.40	4374.40
Interest on Working Capital	277.16	270.57	264.04	257.56	251.13
O & M Expenses	378.31	390.80	403.68	417.18	431.04
<b>Total</b>	<b>11788.69</b>	<b>11478.26</b>	<b>11169.77</b>	<b>10863.23</b>	<b>10557.87</b>

62. The petitioner has requested to allow FERV on the foreign loans deployed. The petitioner is entitled for FERV as per Regulation 50 of the 2014 Tariff Regulations.

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

63. 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**

64. 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.





### **Sharing of Transmission Charges**

65. 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.

66. This order disposes of Petition No. 91/TT/2017.

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	2011-12	2012-13	2013-14
<b>1</b>	<b>Bond XXII</b>			
	Gross loan opening	<b>458.00</b>	<b>458.00</b>	<b>458.00</b>
	Cumulative Repayment upto COD/previous year	<b>38.17</b>	<b>76.33</b>	<b>114.50</b>
	Net Loan-Opening	419.83	381.67	343.50
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	38.17	38.17	38.17
	Net Loan-Closing	381.67	343.50	305.33
	Average Loan	400.75	362.58	324.42
	Rate of Interest	8.68%	8.68%	8.68%
	Interest	34.79	31.47	28.16
	Rep Schedule	12 Equal Annual Installments from 7.12.2010		
<b>2</b>	<b>Bond XXVI</b>			
	Gross loan opening	<b>19420.15</b>	<b>19420.15</b>	<b>19420.15</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>1618.35</b>	<b>3236.69</b>
	Net Loan-Opening	19420.15	17801.80	16183.46
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	1618.35	1618.35	1618.35
	Net Loan-Closing	17801.80	16183.46	14565.11
	Average Loan	18610.98	16992.63	15374.29
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	1730.82	1580.31	1429.81
	Rep Schedule	12 Equal Annual Installments from 7.3.2012		
<b>3</b>	<b>Bond XXVI – Add Cap 2011-12 &amp; Add Cap 2012-13</b>			
	Gross loan opening	<b>0.00</b>	<b>929.32</b>	<b>1097.69</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>77.44</b>	<b>168.92</b>
	Net Loan-Opening	0.00	851.88	928.77
	Additions during the year	929.32	168.37	0.00
	Repayment during the year	77.44	91.47	91.47
	Net Loan-Closing	851.88	928.77	837.30
	Average Loan	425.94	890.32	883.04
	Rate of Interest	9.30%	9.30%	9.30%
	Interest	39.61	82.80	82.12



	Rep Schedule	12 Equal Annual Installments from 7.3.2012		
<b>4</b>	<b>Bond XXI</b>			
	Gross loan opening	<b>153.00</b>	<b>153.00</b>	<b>153.00</b>
	Cumulative Repayment upto COD/previous year	<b>12.75</b>	<b>25.50</b>	<b>38.25</b>
	Net Loan-Opening	140.25	127.50	114.75
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	12.75	12.75	12.75
	Net Loan-Closing	127.50	114.75	102.00
	Average Loan	133.88	121.13	108.38
	Rate of Interest	8.73%	8.73%	8.73%
	Interest	11.69	10.57	9.46
	Rep Schedule	12 Equal Annual Installments from 11.10.2010		
<b>5</b>	<b>Bond XXV</b>			
	Gross loan opening	<b>10530.00</b>	<b>10530.00</b>	<b>10530.00</b>
	Cumulative Repayment upto COD/previous year	<b>877.50</b>	<b>877.50</b>	<b>1755.00</b>
	Net Loan-Opening	9652.50	9652.50	8775.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	877.50	877.50
	Net Loan-Closing	9652.50	8775.00	7897.50
	Average Loan	9652.50	9213.75	8336.25
	Rate of Interest	10.10%	10.10%	10.10%
	Interest	974.90	930.59	841.96
	Rep Schedule	12 Equal Annual Installments from 12.6.2011		
<b>6</b>	<b>Bond XIX</b>			
	Gross loan opening	<b>457.00</b>	<b>457.00</b>	<b>457.00</b>
	Cumulative Repayment upto COD/previous year	<b>76.17</b>	<b>76.17</b>	<b>114.25</b>
	Net Loan-Opening	380.83	380.83	342.75
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	38.08	38.08
	Net Loan-Closing	380.83	342.75	304.67
	Average Loan	380.83	361.79	323.71
	Rate of Interest	9.25%	9.25%	9.25%
	Interest	35.23	33.47	29.94
	Rep Schedule	12 Equal Annual Installments from 24.7.2010		
<b>7</b>	<b>Bond XXIV</b>			
	Gross loan opening	<b>5463.00</b>	<b>5463.00</b>	<b>5463.00</b>
	Cumulative Repayment upto	<b>455.25</b>	<b>910.50</b>	<b>1365.75</b>



	COD/previous year			
	Net Loan-Opening	5007.75	4552.50	4097.25
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	455.25	455.25	455.25
	Net Loan-Closing	4552.50	4097.25	3642.00
	Average Loan	4780.13	4324.88	3869.63
	Rate of Interest	9.95%	9.95%	9.95%
	Interest	475.62	430.33	385.03
	Rep Schedule	12 Equal Annual Installments from 26.3.2011		
<b>8</b>	<b>IBRD IV – Add Cap - 2012-13, 53.94</b>			
	Gross loan opening	<b>0.00</b>	<b>0.00</b>	<b>210.53</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00	210.53
	Additions during the year	0.00	210.53	0.00
	Repayment during the year	0.00	0.00	4.66
	Net Loan-Closing	0.00	210.53	205.87
	Average Loan	0.00	105.27	208.20
	Rate of Interest	1.86%	1.92%	1.68%
	Interest	0.00	2.02	3.50
	Rep Schedule	30 Half yearly Installments from 15.11.2013		
<b>9</b>	<b>IBRD IV - COD - 46.51</b>			
	Gross loan opening	<b>2611.30</b>	<b>2611.30</b>	<b>2611.30</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	2611.30	2611.30	2611.30
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	57.80
	Net Loan-Closing	2611.30	2611.30	2553.50
	Average Loan	2611.30	2611.30	2582.40
	Rate of Interest	1.86%	1.92%	1.68%
	Interest	48.57	50.14	43.38
	Rep Schedule	30 Half yearly Installments from 15.11.2013		
<b>10</b>	<b>IBRD III - 46.51</b>			
	Gross loan opening	<b>11783.22</b>	<b>11783.22</b>	<b>11783.22</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>573.40</b>	<b>1171.84</b>
	Net Loan-Opening	11783.22	11209.82	10611.38
	Additions during the year	0.00	0.00	0.00



	Repayment during the year	573.40	598.44	624.36
	Net Loan-Closing	11209.82	10611.38	9987.02
	Average Loan	11496.52	10910.60	10299.20
	Rate of Interest	2.01%	2.16%	1.86%
	Interest	231.08	235.67	191.57
	Rep Schedule	30 Half yearly Installments from 15.9.2011		
	<b>Total Loan</b>			
	Gross loan opening	<b>50875.67</b>	<b>51804.99</b>	<b>52183.89</b>
	Cumulative Repayment upto COD/previous year	1459.83	4235.19	7965.20
	Net Loan-Opening	49415.84	47569.80	44218.69
	Additions during the year	929.32	378.90	0.00
	Repayment during the year	2775.36	3730.01	3818.39
	Net Loan-Closing	47569.80	44218.69	40400.30
	Average Loan	48492.82	45894.24	42309.49
	Rate of Interest	<b>7.3873%</b>	<b>7.3808%</b>	<b>7.1968%</b>
	<b>Interest</b>	3582.31	3387.37	3044.93



**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
<b>1</b>	<b>Bond XXII</b>					
	Gross loan opening	458.00	458.00	458.00	458.00	458.00
	Cumulative Repayment upto DOCO/previous year	152.67	190.83	229.00	267.17	305.33
	Net Loan-Opening	305.33	267.17	229.00	190.83	152.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	38.17	38.17	38.17	38.17	38.17
	Net Loan-Closing	267.17	229.00	190.83	152.67	114.50
	Average Loan	286.25	248.08	209.92	171.75	133.58
	Rate of Interest	8.68%	8.68%	8.68%	8.68%	8.68%
	Interest	24.85	21.53	18.22	14.91	11.60
	Rep Schedule	12 Equal Annual Installments from 7.12.2010				
<b>2</b>	<b>Bond XXVI</b>					
	Gross loan opening	19420.15	19420.15	19420.15	19420.15	19420.15
	Cumulative Repayment upto DOCO/previous year	4855.04	6473.38	8091.73	9710.08	11328.42
	Net Loan-Opening	14565.11	12946.77	11328.42	9710.08	8091.73
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	1618.35	1618.35	1618.35	1618.35	1618.35
	Net Loan-Closing	12946.77	11328.42	9710.08	8091.73	6473.38
	Average Loan	13755.94	12137.59	10519.25	8900.90	7282.56
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	1279.30	1128.80	978.29	827.78	677.28
	Rep Schedule	12 Equal Annual Installments from 7.3.2012				
<b>3</b>	<b>Bond XXVI – Add-cap 2011-12 and Add-cap 2012-13</b>					
	Gross loan opening	1097.69	1097.69	1097.69	1097.69	1097.69
	Cumulative Repayment upto DOCO/previous year	260.39	351.87	443.34	534.81	626.29
	Net Loan-Opening	837.30	745.82	654.35	562.88	471.40
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	91.47	91.47	91.47	91.47	91.47
	Net Loan-Closing	745.82	654.35	562.88	471.40	379.93
	Average Loan	791.56	700.09	608.61	517.14	425.66



	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	73.62	65.11	56.60	48.09	39.59
	Rep Schedule	12 Equal Annual Installments from 7.3.2012				
<b>4</b>	<b>Bond XXI</b>					
	Gross loan opening	<b>153.00</b>	<b>153.00</b>	<b>153.00</b>	<b>153.00</b>	<b>153.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>51.00</b>	<b>63.75</b>	<b>76.50</b>	<b>89.25</b>	<b>102.00</b>
	Net Loan-Opening	102.00	89.25	76.50	63.75	51.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	12.75	12.75	12.75	12.75	12.75
	Net Loan-Closing	89.25	76.50	63.75	51.00	38.25
	Average Loan	95.63	82.88	70.13	57.38	44.63
	Rate of Interest	8.73%	8.73%	8.73%	8.73%	8.73%
	Interest	8.35	7.23	6.12	5.01	3.90
	Rep Schedule	12 Equal Annual Installments from 11.10.2010				
<b>5</b>	<b>Bond XXV</b>					
	Gross loan opening	<b>10530.00</b>	<b>10530.00</b>	<b>10530.00</b>	<b>10530.00</b>	<b>10530.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>2632.50</b>	<b>3510.00</b>	<b>4387.50</b>	<b>5265.00</b>	<b>6142.50</b>
	Net Loan-Opening	7897.50	7020.00	6142.50	5265.00	4387.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	877.50	877.50	877.50	877.50	877.50
	Net Loan-Closing	7020.00	6142.50	5265.00	4387.50	3510.00
	Average Loan	7458.75	6581.25	5703.75	4826.25	3948.75
	Rate of Interest	10.10%	10.10%	10.10%	10.10%	10.10%
	Interest	753.33	664.71	576.08	487.45	398.82
	Rep Schedule	12 Equal Annual Installments from 12.6.2011				
<b>6</b>	<b>Bond XIX</b>					
	Gross loan opening	<b>457.00</b>	<b>457.00</b>	<b>457.00</b>	<b>457.00</b>	<b>457.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>152.33</b>	<b>190.42</b>	<b>228.50</b>	<b>266.58</b>	<b>304.67</b>
	Net Loan-Opening	304.67	266.58	228.50	190.42	152.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	38.08	38.08	38.08	38.08	38.08
	Net Loan-Closing	266.58	228.50	190.42	152.33	114.25
	Average Loan	285.63	247.54	209.46	171.38	133.29
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	26.42	22.90	19.37	15.85	12.33
	Rep Schedule	12 Equal Annual Installments from 24.7.2010				
<b>7</b>	<b>Bond XXIV</b>					



	Gross loan opening	<b>5463.00</b>	<b>5463.00</b>	<b>5463.00</b>	<b>5463.00</b>	<b>5463.00</b>
	Cumulative Repayment upto DOCO/previous year	<b>1821.00</b>	<b>2276.25</b>	<b>2731.50</b>	<b>3186.75</b>	<b>3642.00</b>
	Net Loan-Opening	3642.00	3186.75	2731.50	2276.25	1821.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	455.25	455.25	455.25	455.25	455.25
	Net Loan-Closing	3186.75	2731.50	2276.25	1821.00	1365.75
	Average Loan	3414.38	2959.13	2503.88	2048.63	1593.38
	Rate of Interest	9.95%	9.95%	9.95%	9.95%	9.95%
	Interest	339.73	294.43	249.14	203.84	158.54
	Rep Schedule	12 Equal Annual Installments from 26.3.2011				
<b>8</b>	<b>IBRD IV – Add-cap - 2012-13, 53.94</b>					
	Gross loan opening	<b>210.53</b>	<b>210.53</b>	<b>210.53</b>	<b>210.53</b>	<b>210.53</b>
	Cumulative Repayment upto DOCO/previous year	<b>4.66</b>	<b>14.36</b>	<b>24.58</b>	<b>35.36</b>	<b>46.72</b>
	Net Loan-Opening	205.87	196.17	185.95	175.17	163.81
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	9.70	10.22	10.78	11.37	11.98
	Net Loan-Closing	196.17	185.95	175.17	163.81	151.82
	Average Loan	201.02	191.06	180.56	169.49	157.82
	Rate of Interest	1.63%	1.63%	1.63%	1.63%	1.63%
	Interest	3.28	3.11	2.94	2.76	2.57
	Rep Schedule	30 Half yearly Installments from 15.11.2013				
<b>9</b>	<b>IBRD IV - COD - 46.51</b>					
	Gross loan opening	<b>2611.30</b>	<b>2611.30</b>	<b>2611.30</b>	<b>2611.30</b>	<b>2611.30</b>
	Cumulative Repayment upto DOCO/previous year	<b>57.80</b>	<b>178.07</b>	<b>304.87</b>	<b>438.57</b>	<b>579.53</b>
	Net Loan-Opening	2553.50	2433.23	2306.43	2172.73	2031.77
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	120.27	126.80	133.70	140.97	148.63
	Net Loan-Closing	2433.23	2306.43	2172.73	2031.77	1883.14
	Average Loan	2493.37	2369.83	2239.58	2102.25	1957.45
	Rate of Interest	1.63%	1.63%	1.63%	1.63%	1.63%
	Interest	40.64	38.63	36.51	34.27	31.91
	Rep Schedule	30 Half yearly Installments from 15.11.2013				
<b>10</b>	<b>IBRD III - 46.51</b>					
	Gross loan opening	<b>11783.22</b>	<b>11783.22</b>	<b>11783.22</b>	<b>11783.22</b>	<b>11783.22</b>
	Cumulative Repayment upto DOCO/previous year	<b>1796.20</b>	<b>2447.67</b>	<b>3127.41</b>	<b>3836.91</b>	<b>4577.19</b>
	Net Loan-Opening	9987.02	9335.55	8655.81	7946.31	7206.03





	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	651.46	679.74	709.50	740.28	772.39
	Net Loan-Closing	9335.55	8655.81	7946.31	7206.03	6433.64
	Average Loan	9661.28	8995.68	8301.06	7576.17	6819.83
	Rate of Interest	1.79%	1.79%	1.79%	1.79%	1.79%
	Interest	172.94	161.02	148.59	135.61	122.08
	Rep Schedule	30 Half yearly Installments from 15.9.2011				
	<b>Total Loan</b>					
	Gross loan opening	<b>52183.89</b>	<b>52183.89</b>	<b>52183.89</b>	<b>52183.89</b>	<b>52183.89</b>
	Cumulative Repayment upto DOCO/previous year	11783.59	15696.59	19644.93	23630.48	27654.66
	Net Loan-Opening	40400.30	36487.30	32538.96	28553.41	24529.23
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	3913.00	3948.34	3985.54	4024.18	4064.57
	Net Loan-Closing	36487.30	32538.96	28553.41	24529.23	20464.66
	Average Loan	38443.80	34513.13	30546.19	26541.32	22496.95
	Rate of Interest	<b>7.082%</b>	<b>6.976%</b>	<b>6.848%</b>	<b>6.690%</b>	<b>6.484%</b>
	<b>Interest</b>	2722.45	2407.47	2091.86	1775.58	1458.60

