

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 116/TT/2014**

**Coram:**

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

**Date of Hearing : 06.04.2016  
Date of Order : 29.04.2016**

**In the matter of:**

Determination of transmission tariff of **Asset 1:** 420 kV, 125 MVAR Bus Reactor at Jabalpur Sub-station, **Asset 2:** 420 kV, 125 MVAR Bus Reactor at Khandawa Sub-station, **Asset 3:** 420 kV, 125 MVAR Bus Reactor at Bhatapara Sub-station, **Asset 4:** 420 kV, 125 MVAR Bus Reactor at Raigarh Sub-station, **Asset 5:** 420 kV, 80 MVAR Switchable Line Reactor at Solapur Sub-station, **Asset 6:** 420 kV, 125 MVAR Bus Reactor at Aurangabad Sub-station Under "Installation of reactors in Western Region" in Western Region for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 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. Madhya Pradesh Power Power Management Company Ltd.  
Shakti Bhawan, Rampur, Jabalpur-482008
2. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4<sup>th</sup> Floor, Andheri (East), Mumbai-400052
3. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,  
Race Course Road  
Vadodara- 390007



4. Electricity Department  
Government of Goa,  
Vidyut Bhawan, Panaji- 403001
5. Electricity Department  
Administration of Daman & Diu,  
Daman- 396210
6. Electricity Department  
Administration of Dadar Nagar Haveli,  
U.T., Silvassa- 396230
7. Chhattisgarh State Electricity Board  
P.O Sunder Nagar, Dangania, Raipur  
Chhatisgaarh-492013
8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road  
Indore-452008

.....Respondents

The following were present:-

For Petitioner:        Shri A. M. Pavgi, PGCIL  
                              Shri Mohd. Mohsin, PGCIL  
                              Shri PiyushAwasthi, PGCIL  
                              Shri M.M. Mondal, PGCIL  
                              Shri S.K. Venkatesan, PGCIL  
                              Shri Rakesh Prasad, PGCIL  
                              Shri S.S. Raju, PGCIL  
                              Shri Subhash C Taneja, PGCIL  
                              Shri Pankaj Sharma, PGCIL  
                              Shri Mayank Sharma, Advocate, PSPCL  
                              Shri Gaurav Gupta, Advocate, PSPCL

For Respondent:        None

### **ORDER**

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner") for determination of transmission tariff under Regulation 6 of



the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for **Asset 1:** 420 kV, 125 MVAR Bus Reactor at Jabalpur Sub-station, **Asset 2:** 420 kV, 125 MVAR Bus Reactor at Khandawa Sub-station, **Asset 3:** 420 kV, 125 MVAR Bus Reactor at Bhatapara Sub-station, **Asset 4:** 420 kV, 125 MVAR Bus Reactor at Raigarh Sub-station, **Asset 5:** 420 kV, 80 MVAR Switchable Line Reactor at Solapur Sub-station, **Asset 6:** 420 kV, 125 MVAR Bus Reactor at Aurangabad Sub-station Under “Installation of reactors in Western Region” in Western Region (hereinafter referred as “transmission asset”) based on actual capital expenditure from COD to 31.3.2019.

2. The respondents are distribution licensees or electricity departments or power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Western Region.

3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with the Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner company vide its memorandum no. C/CP/WR-

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272 dated 6.8.2012 at an estimated cost of ₹8317 lakh including IDC of ₹423 lakh. Subsequently, Revised cost estimate was approved vide memorandum no. C/CP/RCE/RCE-Reactor-WR dated 20.1.2016 at an estimated cost of ₹8317 lakh including IDC of ₹331 lakh.

(b) The scope of work covered under the project is as follows:-

Sub-station:

a) Installation of 400 kV, 125 MVAR Bus Reactor at

- i. Jabalpur
- ii. Khandawa
- iii. Sujhalpur
- iv. Bhatapara
- v. Rajgarh
- vi. Aurangabad 400 kV Sub-stations.

b) Installation of 400 kV, 80 MVAR Switchable Line Reactor at 400 kV Sholapur Sub-station.

(c) Annual Fixed Charges was allowed for the instant assets under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 26.9.2014.

5. The petitioner has initially submitted Auditor's Certificate only for Assets-I and II and Management Certificate for Assets-III, IV, V and VI in support of the capital cost claimed by it. The petitioner, vide affidavit dated 10.11.2014, has submitted revised Auditor's Certificate for Asset-III and revised Management Certificate for Asset-IV. Regulation 7(4) and 7(7)(i) of the 2014 Tariff Regulations provides as follows:-

**"7 Application for determination of tariff:-**



(4) The generating company or the transmission licensee, as the case may be, shall make an application as per **Annexure-I** of these regulations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the tariff period of the generating station or the transmission system as the case may be:

(7) In case of the new projects, the generating company or the transmission licensee, as the case may be, may be allowed tariff by the Commission based on the projected capital expenditure from the anticipated COD in accordance with Regulation 6 of these regulations:

Provided that :

(i) the Commission may grant tariff upto 90% of the annual fixed charges claimed in respect of the transmission system or element thereof based on the management certificate regarding the capital cost for the purpose of inclusion in the POC charges in accordance with the CERC (Sharing of Inter State Transmission charges and losses), Regulation, 2010 as amended from time to time:"

6. As per the above said regulation, the Auditor Certificate is mandatory for final determination of tariff whereas for grant of AFC for inclusion in the PoC charges Management Certificate is required. In the instant case, the petitioner has not filed the Auditor Certificate in case of Assets-IV, V and VI. Therefore, tariff is allowed for only Assets-I, II and III in this order. The petitioner is directed to file a fresh petition for Assets-IV, V and VI, along with actual capital cost duly certified by the Auditor. However, the AFC allowed for Assets-IV, V and VI, vide order dated 26.9.2014, will continue to be included in the computation of PoC charges till determination of final tariff for these assets.

7. The transmission charges as claimed by the petitioner in the petition.



(₹ in lakh)

Particulars (Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	35.02	42.80	44.73	44.73	44.73
Interest on Loan	44.02	50.34	48.52	44.10	39.70
Return on equity	39.02	47.69	49.84	49.84	49.84
Interest on Working Capital	6.05	6.68	6.85	6.87	6.89
O & M Expenses	60.30	62.30	64.37	66.51	68.71
<b>Total*</b>	<b>184.41</b>	<b>209.81</b>	<b>214.31</b>	<b>212.05</b>	<b>209.87</b>

(\*Petitioner has not submitted revised tariff forms as per revised capital cost)

(₹ in lakh)

Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	54.81	66.03	68.26	68.26	68.26
Interest on Loan	69.65	78.46	74.70	67.94	61.18
Return on equity	61.07	73.57	76.05	76.05	76.05
Interest on Working Capital	7.60	8.46	8.60	8.56	8.53
O & M Expenses	60.30	62.30	64.37	66.51	68.71
<b>Total</b>	<b>253.43</b>	<b>288.82</b>	<b>291.98</b>	<b>287.32</b>	<b>282.73</b>

(₹ in lakh)

Particulars (Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	59.48	78.17	80.42	80.42	80.42
Interest on Loan	79.62	98.93	94.13	86.15	78.19
Return on equity	69.55	92.11	94.74	94.74	94.74
Interest on Working Capital	7.58	9.64	9.75	9.69	9.63
O & M Expenses	50.25	62.30	64.37	66.51	68.71
<b>Total</b>	<b>266.48</b>	<b>341.15</b>	<b>343.41</b>	<b>337.51</b>	<b>331.69</b>

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

(₹ in lakh)

Particulars (Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	30.74	34.97	35.72	35.34	34.98
Total	44.82	49.51	50.74	50.86	51.02
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>6.05</b>	<b>6.68</b>	<b>6.85</b>	<b>6.87</b>	<b>6.89</b>



(₹ in lakh)					
Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	42.24	48.14	48.66	47.89	47.12
Total	56.32	62.68	63.68	63.41	63.16
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>7.60</b>	<b>8.46</b>	<b>8.60</b>	<b>8.56</b>	<b>8.53</b>

(₹ in lakh)					
Particulars (Asset-III)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	53.50	56.86	57.24	56.25	55.28
Total	67.38	71.40	72.26	71.77	71.32
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>9.10</b>	<b>9.64</b>	<b>9.76</b>	<b>9.69</b>	<b>9.63</b>

#### **Commercial Operation Date (COD)**

9. The petitioner has claimed the date of the commercial operation for Assets-I, II and III as 1.4.2014, 1.4.2014 and 26.7.2014 respectively. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

**“4. Date of Commercial Operation:** The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

xxx”

10. The petitioner has submitted the approval of CEA for energisation for Assets-I and II in accordance with Regulation 43 of CEA (Measures relating to



Safety and Electric Supply), Regulations, 2010. The petitioner has also submitted RLDC certificate issued by WRLDC, POSOCO in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation of Asset-III. The petitioner has not submitted the RLDC certificate in case of Assets-I and II. As both Assets-I & II were commissioned on 1.4.2014, the 2014 Tariff Regulations are applicable in case of these assets. As such, it is mandatory for the petitioner to submit a certificate from the Regional Load Despatch Centre as provided under Regulation 5(2) of the 2014 Tariff Regulations. The date of commercial operation for both Assets-I and II is provisionally approved as 1.4.2014 and the petitioner is directed to submit the certificate issued by Regional Load Despatch Centre as provided under Regulation 5(2) of the 2014 Tariff Regulations at the time of truing up.

11. Accordingly, the date of commercial operation date of Assets-I and II have been provisionally considered as 1.4.2014 and the COD of Asset-III is considered as 26.7.2014;

### **Capital Cost**

12. Regulation 9 (1), 9(2) and 10 (1) of the 2014 Tariff Regulations with regard to capital cost of the project provides as follows:-

**“9. Capital Cost:** (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.

(2) The Capital Cost of a new project shall include the following:





- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (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;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

**“10. Prudence Check of Capital Expenditure:** The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

13. The details of FR approved apportioned cost, the revised apportioned cost, capital cost as on COD and the estimated completion cost claimed by the petitioner are as given below:-

Asset	Approved cost as per FR	Approved cost as per RCE	Capital cost as on COD	Additional capitalization		Total estimated completion cost
				2014-15	2015-16	
Asset-I	1036.32	856.17	552.53	221.60	73.11	847.24
Asset-II	1230.88	1305.76	867.53	340.95	84.29	1292.77



Asset	Approved cost as per FR	Approved cost as per RCE	Capital cost as on COD	Additional capitalization		Total estimated completion cost
				2014-15	2015-16	
Asset-III	1316.36	1673.48	1099.93	391.37	121.56	1612.86

### **Time Over-run**

14. As per the investment approval, the commissioning schedule of the project was 24 months from the date of investment approval. The investment approval was accorded on 6.8.2012 and the schedule date of commercial operation was 5.8.2014. Therefore there is no time over-run in case of Assets-I, II and III.

### **Cost over-run**

15. The estimated completion cost of the instant assets is within the revised approved apportioned cost. Hence, there is no cost over-run in case of instant assets.

### **Treatment of Initial spares**

16. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

- “(a) Coal-based/lignite-fired thermal generating stations - 4.0%
- (b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%
- (c) Hydro generating stations including pumped storage hydro generating station. - 4.0%
- (d) Transmission system
  - (i) Transmission line - 1.00%
  - (ii) Transmission Sub-station (Green Field) - 4.00%
  - (iii) Transmission Sub-station (Brown Field) - 6.00%
  - (iv) Series Compensation devices and HVDC Station - 4.00%
  - (v) Gas Insulated Sub-station (GIS) - 5.00%



(vi) Communication system - 3.5%”

17. The initial spares claimed by the petitioner for the instant assets is within the ceiling limit specified in the 2014 Tariff Regulations. Accordingly, the details of the capital cost considered as on the date of COD for Asset-I, II and III are as follows:-

Particulars	(₹ in lakh)		
	Asset-I	Asset-II	Asset-III
Capital cost as on COD considered for tariff computation	552.53	867.53	1099.93

### **Additional Capital Expenditure**

18. The petitioner has projected additional capitalization for the years 2014-15 and 2015-16 towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. It is observed that total estimated completion cost including the additional capitalization is within the approved apportioned cost for Assets-I, II & III.

19. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” as follows:-

“Cut - off Date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cut - off date shall be 31st March of the year closing after three years of the year of commercial operation.”

20. The cut-off date for all the assets works out to be 31.3.2017. The additional capitalization claimed by the petitioner is within the cut-off date. The additional capitalization for 2014-15 and 2015-16 is allowed under Regulation



14(1)(i) of 2014 Tariff Regulations for Assets-I, II and III. The details of additional capitalization allowed is as follows:-

Cost as per revised Investment Approval is ₹856.17 lakh								
Particulars (Asset-I)	Capital cost as on 1.4.2014	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19		
Approved	552.53	221.60	73.11	0.00	0.00	0.00	294.71	847.24

Cost as per revised Investment Approval is ₹1305.76 lakh								
Particulars (Asset-II)	Capital cost as on 1.4.2014	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19		
Approved	867.53	340.95	84.29	0.00	0.00	0.00	425.24	1292.77

Cost as per revised Investment Approval is ₹1673.48 lakh								
Particulars (Asset-III)	Capital cost as on 26.7.2014	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
		2014-15	2015-16	2016-17	2017-18	2018-19		
Approved	1099.93	391.37	121.56	0.00	0.00	0.00	512.93	1612.86

### **Debt:EquityRatio**

21. Regulation 19 (1) of the 2014 Tariff Regulations specifies as under:-

**“19. Debt-Equity Ratio:** (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on



COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

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:

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.”

22. The petitioner has considered debt:equity ratio as 70:30 as on COD. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2014-15 and 2015-16. The details of the debt:equity as on the date of COD and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset-I	As on 1.4.2014		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	386.77	70.00	206.30	70.00	593.07	70.00
Equity	165.76	30.00	88.41	30.00	254.17	30.00
<b>Total</b>	<b>552.53</b>	<b>100.00</b>	<b>294.71</b>	<b>100.00</b>	<b>847.24</b>	<b>100.00</b>

(₹ in lakh)

Asset-II	As on 1.4.2014		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	607.27	70.00	297.67	70.00	904.94	70.00
Equity	260.26	30.00	127.57	30.00	387.83	30.00
<b>Total</b>	<b>867.53</b>	<b>100.00</b>	<b>425.24</b>	<b>100.00</b>	<b>1292.77</b>	<b>100.00</b>

(₹ in lakh)

Asset-III	As on 26.7.2014		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	769.95	70.00	359.05	70.00	1129.00	70.00
Equity	329.98	30.00	153.88	30.00	483.86	30.00
<b>Total</b>	<b>1099.93</b>	<b>100.00</b>	<b>512.93</b>	<b>100.00</b>	<b>1612.86</b>	<b>100.00</b>



### **Interest on Loan (“IOL”)**

23. 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.”

24. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner’s prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure** and the IOL has been worked out as follows:-



(₹ in lakh)

(Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	386.77	541.89	593.07	593.07	593.07
Cumulative Repayment upto COD/previous year	0.00	35.02	77.83	122.56	167.30
Net Loan-Opening	386.77	506.87	515.24	470.51	425.77
Additions during the year	155.12	51.18	0.00	0.00	0.00
Repayment during the year	35.02	42.80	44.73	44.73	44.73
Net Loan-Closing	506.87	515.24	470.51	425.77	381.04
Average Loan	446.82	511.05	492.87	448.14	403.40
Rate of Interest (%)	9.8508	9.8508	9.8448	9.8411	9.8413
<b>Interest</b>	<b>44.02</b>	<b>50.34</b>	<b>48.52</b>	<b>44.10</b>	<b>39.70</b>

(₹ in lakh)

(Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	607.27	845.94	904.94	904.94	904.94
Cumulative Repayment upto COD/previous year	0.00	54.81	120.84	189.10	257.36
Net Loan-Opening	607.27	791.13	784.10	715.84	647.58
Additions during the year	238.67	59.00	0.00	0.00	0.00
Repayment during the year	54.81	66.03	68.26	68.26	68.26
Net Loan-Closing	791.13	784.10	715.84	647.58	579.32
Average Loan	699.20	787.61	749.97	681.71	613.45
Rate of Interest (%)	9.9611	9.9611	9.9613	9.9663	9.9724
<b>Interest</b>	<b>69.65</b>	<b>78.46</b>	<b>74.71</b>	<b>67.94</b>	<b>61.18</b>

(₹ in lakh)

(Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	769.95	1043.91	1129.00	1129.00	1129.00
Cumulative Repayment upto COD/previous year	0.00	44.03	120.34	199.70	279.05
Net Loan-Opening	769.95	999.88	1008.66	929.31	849.95
Additions during the year	273.96	85.09	0.00	0.00	0.00
Repayment during the year	44.03	76.31	79.36	79.36	79.36
Net Loan-Closing	999.88	1008.66	929.31	849.95	770.59
Average Loan	884.91	1004.27	968.99	889.63	810.27



(Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Rate of Interest (%)	9.9194	9.9194	9.9147	9.9132	9.9148
<b>Interest</b>	<b>59.88</b>	<b>99.62</b>	<b>96.07</b>	<b>88.19</b>	<b>80.34</b>

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

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

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

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

**"25. Tax on Return on Equity:**

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

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

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

26. The petitioner has claimed ROE at the rate of 19.610% for 2014-19 after grossing up the ROE of 15.5% with MAT rate of 20.961%. 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.

27. 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.

28. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted tax was paid at MAT rate is applicable to the petitioner's company. We have considered the MAT rate applicable during 2013-14 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. The ROE allowed for the instant transmission asset is given below:-

	(₹ in lakh)				
<b>(Asset-I)</b>	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	165.76	232.24	254.17	254.17	254.17
Addition to Equity during the year	66.48	21.93	0.00	0.00	0.00
Closing Equity	232.24	254.17	254.17	254.17	254.17
Average Equity	199.00	243.21	254.17	254.17	254.17
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961



<b>(Asset-I)</b>	2014-15	2015-16	2016-17	2017-18	2018-19
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>39.02</b>	<b>47.69</b>	<b>49.84</b>	<b>49.84</b>	<b>49.84</b>

(₹ in lakh)

<b>(Asset-II)</b>	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	260.26	362.54	387.83	387.83	387.83
Addition to Equity during the year	102.29	25.29	0.00	0.00	0.00
Closing Equity	362.54	387.83	387.83	387.83	387.83
Average Equity	311.40	375.19	387.83	387.83	387.83
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>61.07</b>	<b>73.57</b>	<b>76.05</b>	<b>76.05</b>	<b>76.05</b>

(₹ in lakh)

<b>(Asset-III)</b>	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	329.98	447.39	483.86	483.86	483.86
Addition to Equity during the year	117.41	36.47	0.00	0.00	0.00
Closing Equity	447.39	483.86	483.86	483.86	483.86
Average Equity	388.68	465.62	483.86	483.86	483.86
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
<b>Return on Equity (Pre Tax)</b>	<b>52.00</b>	<b>91.31</b>	<b>94.88</b>	<b>94.88</b>	<b>94.88</b>

## **Depreciation**

29. 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.”

30. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“(67) **‘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) Gas Insulated Substation (GIS) 25 years
- (d) Hydro generating station including pumped storage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”

31. The petitioner has computed depreciation considering capital expenditure claimed as on COD and additional capitalization.

32. We have considered the submissions of the petitioner and have computed depreciation considering capital expenditure and additional capitalization approved in this order. The weighted average useful life of the asset has been considered as 25 years for all the assets in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-



(₹ in lakh)

(Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	552.53	774.13	847.24	847.24	847.24
Additional Capitalisation	221.60	73.11	0.00	0.00	0.00
Gross block at the end of the year	774.13	847.24	847.24	847.24	847.24
Average gross block	663.33	810.69	847.24	847.24	847.24
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	597.00	729.62	762.52	762.52	762.52
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	597.00	694.59	684.69	639.95	595.22
<b>Depreciation</b>	<b>35.02</b>	<b>42.80</b>	<b>44.73</b>	<b>44.73</b>	<b>44.73</b>

(₹ in lakh)

(Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	867.53	1208.48	1292.77	1292.77	1292.77
Additional Capitalisation	340.95	84.29	0.00	0.00	0.00
Gross block at the end of the year	1208.48	1292.77	1292.77	1292.77	1292.77
Average gross block	1038.01	1250.63	1292.77	1292.77	1292.77
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	934.20	1125.56	1163.49	1163.49	1163.49
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	934.20	1070.76	1042.65	974.40	906.14
<b>Depreciation</b>	<b>54.81</b>	<b>66.03</b>	<b>68.26</b>	<b>68.26</b>	<b>68.26</b>

(₹ in lakh)

(Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	1099.93	1491.30	1612.86	1612.86	1612.86
Additional Capitalisation	391.37	121.56	0.00	0.00	0.00
Gross block at the end of the year	1491.30	1612.86	1612.86	1612.86	1612.86
Average gross block	1295.62	1552.08	1612.86	1612.86	1612.86
Rate of Depreciation (%)	4.982	4.916	4.920	4.920	4.920
Depreciable Value	1166.05	1396.87	1451.57	1451.57	1451.57
Elapsed Life of the assets at beginning of the year	0	1	2	3	4



<b>(Asset-III)</b>	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	1166.05	1352.84	1331.24	1251.88	1172.52
<b>Depreciation</b>	<b>44.03</b>	<b>76.31</b>	<b>79.36</b>	<b>79.36</b>	<b>79.36</b>

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

33. The petitioner has computed normative O&M Expenses as per Regulation 29(4)(a) of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M expenses have been worked out as given hereunder:-

(₹ in lakh)

Particulars (Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses for Bays</b>					
<b>Norm (₹ lakh/Bay)</b>					
400 kV	60.30	62.30	64.37	66.51	68.71
<b>Bays</b>					
400 kV	1	1	1	1	1
<b>Total O&amp;M expense (Bay) (₹ lakh)</b>	<b>60.30</b>	<b>62.30</b>	<b>64.37</b>	<b>66.51</b>	<b>68.71</b>

(₹ in lakh)

Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses for Bays</b>					
<b>Norm (₹ lakh/Bay)</b>					
400 kV	60.30	62.30	64.37	66.51	68.71
<b>Bays</b>					
400 kV	1	1	1	1	1
<b>Total O&amp;M expense (Bay) (₹ lakh)</b>	<b>60.30</b>	<b>62.30</b>	<b>64.37</b>	<b>66.51</b>	<b>68.71</b>

(₹ in lakh)

Particulars (Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses for Bays</b>					
<b>Norm (₹ lakh/Bay)</b>					
400 kV	60.30	62.30	64.37	66.51	68.71
<b>Bays</b>					
400 kV	1	1	1	1	1
<b>Total O&amp;M expense (Bay) (₹ lakh)</b>	<b>41.14</b>	<b>62.30</b>	<b>64.37</b>	<b>66.51</b>	<b>68.71</b>



34. 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.

35. 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”)**

36. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

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

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being



allowed, receivables have been worked out on the basis of 2 months transmission charges.

**(ii) Maintenance Spares**

Regulation 28 (1) (c) (ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

**(iii) O & M Expenses**

Regulation 28 (1) (c) (iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

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

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the 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. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

37. Computations in support of interest on working capital allowed are as follows:-

(₹ in lakh)					
Particulars (Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	30.74	34.97	35.72	35.34	34.98
Total	44.81	49.51	50.74	50.86	51.01
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>6.05</b>	<b>6.68</b>	<b>6.85</b>	<b>6.87</b>	<b>6.89</b>

(₹ in lakh)					
Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	42.24	48.14	48.66	47.89	47.12
Total	56.31	62.67	63.68	63.41	63.15
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>7.60</b>	<b>8.46</b>	<b>8.60</b>	<b>8.56</b>	<b>8.53</b>

(₹ in lakh)					
Particulars (Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	6.17	9.35	9.66	9.98	10.31
O & M expenses	3.43	5.19	5.36	5.54	5.73
Receivables	33.82	56.52	57.41	56.44	55.49
Total	43.42	71.06	72.43	71.96	71.52
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest</b>	<b>5.86</b>	<b>9.59</b>	<b>9.78</b>	<b>9.71</b>	<b>9.66</b>

### Annual Transmission Charges





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

(₹ in lakh)					
Particulars (Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Gross Opening Block	552.53	774.13	847.24	847.24	847.24
Additional Capitalisation	221.60	73.11	0.00	0.00	0.00
Gross Closing Block	774.13	847.24	847.24	847.24	847.24
Average Gross Block	663.33	810.69	847.24	847.24	847.24
<b>Depreciation</b>					
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	597.00	729.62	762.52	762.52	762.52
Elapsed Life (Beginning of the year)	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	597.00	694.59	684.69	639.95	595.22
Depreciation	35.02	42.80	44.73	44.73	44.73
<b>Interest on Loan</b>					
Gross Normative Loan	386.77	541.89	593.07	593.07	593.07
Cumulative Repayment upto Previous Year	0.00	35.02	77.83	122.56	167.30
Net Loan-Opening	386.77	506.87	515.24	470.51	425.77
Addition due to Additional Capitalisation	155.12	51.18	0.00	0.00	0.00
Repayment during the year	35.02	42.80	44.73	44.73	44.73
Net Loan-Closing	506.87	515.24	470.51	425.77	381.04
Average Loan	446.82	511.05	492.87	448.14	403.40
Weighted Average Rate of Interest on Loan (%)	9.8508	9.8508	9.8448	9.8411	9.8413
Interest	44.02	50.34	48.52	44.10	39.70
<b>Return on Equity</b>					
Opening Equity	165.76	232.24	254.17	254.17	254.17
Addition due to Additional	66.48	21.93	0.00	0.00	0.00



Particulars (Asset-I)	2014-15	2015-16	2016-17	2017-18	2018-19
Capitalisation					
Closing Equity	232.24	254.17	254.17	254.17	254.17
Average Equity	199.00	243.21	254.17	254.17	254.17
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax ) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	39.02	47.69	49.84	49.84	49.84
<b>Interest on Working Capital</b>					
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	30.74	34.97	35.72	35.34	34.98
Total	44.81	49.51	50.74	50.86	51.01
Interest	6.05	6.68	6.85	6.87	6.89
<b>Annual Transmission Charges</b>					
Depreciation	35.02	42.80	44.73	44.73	44.73
Interest on Loan	44.02	50.34	48.52	44.10	39.70
Return on Equity	39.02	47.69	49.84	49.84	49.84
Interest on Working Capital	6.05	6.68	6.85	6.87	6.89
O & M Expenses	60.30	62.30	64.37	66.51	68.71
<b>Total</b>	<b>184.41</b>	<b>209.82</b>	<b>214.32</b>	<b>212.06</b>	<b>209.87</b>

(₹ in lakh)

Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Gross Opening Block	867.53	1208.48	1292.77	1292.77	1292.77
Additional Capitalisation	340.95	84.29	0.00	0.00	0.00
Gross Closing Block	1208.48	1292.77	1292.77	1292.77	1292.77
Average Gross Block	1038.01	1250.63	1292.77	1292.77	1292.77
<b>Depreciation</b>					
Rate of Depreciation (%)	5.280%	5.280%	5.280%	5.280%	5.280%
Depreciable Value	934.20	1125.56	1163.49	1163.49	1163.49
Elapsed Life (Beginning of the year)	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21



Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Remaining Depreciable Value	934.20	1070.76	1042.65	974.40	906.14
Depreciation	54.81	66.03	68.26	68.26	68.26
<b>Interest on Loan</b>					
Gross Normative Loan	607.27	845.94	904.94	904.94	904.94
Cumulative Repayment upto Previous Year	0.00	54.81	120.84	189.10	257.36
Net Loan-Opening	607.27	791.13	784.10	715.84	647.58
Addition due to Additional Capitalisation	238.67	59.00	0.00	0.00	0.00
Repayment during the year	54.81	66.03	68.26	68.26	68.26
Net Loan-Closing	791.13	784.10	715.84	647.58	579.32
Average Loan	699.20	787.61	749.97	681.71	613.45
Weighted Average Rate of Interest on Loan (%)	9.9611 %	9.9611 %	9.9613 %	9.9663 %	9.9724%
Interest	69.65	78.46	74.71	67.94	61.18
<b>Return on Equity</b>					
Opening Equity	260.26	362.54	387.83	387.83	387.83
Addition due to Additional Capitalisation	102.29	25.29	0.00	0.00	0.00
Closing Equity	362.54	387.83	387.83	387.83	387.83
Average Equity	311.40	375.19	387.83	387.83	387.83
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax ) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	61.07	73.57	76.05	76.05	76.05
<b>Interest on Working Capital</b>					
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	42.24	48.14	48.66	47.89	47.12
Total	56.31	62.67	63.68	63.41	63.15
Interest	7.60	8.46	8.60	8.56	8.53
<b>Annual Transmission Charges</b>					
Depreciation	54.81	66.03	68.26	68.26	68.26
Interest on Loan	69.65	78.46	74.71	67.94	61.18
Return on Equity	61.07	73.57	76.05	76.05	76.05



Particulars (Asset-II)	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	7.60	8.46	8.60	8.56	8.53
O & M Expenses	60.30	62.30	64.37	66.51	68.71
<b>Total</b>	<b>253.42</b>	<b>288.82</b>	<b>291.99</b>	<b>287.32</b>	<b>282.72</b>

(₹ in lakh)					
Particulars (Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Gross Opening Block	1099.93	1491.30	1612.86	1612.86	1612.86
Additional Capitalisation	391.37	121.56	0.00	0.00	0.00
Gross Closing Block	1491.30	1612.86	1612.86	1612.86	1612.86
Average Gross Block	1295.62	1552.08	1612.86	1612.86	1612.86
<b>Depreciation</b>					
Rate of Depreciation (%)	4.982	4.916	4.920	4.920	4.920
Depreciable Value	1166.05	1396.87	1451.57	1451.57	1451.57
Elapsed Life (Beginning of the year)	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	1166.05	1352.84	1331.24	1251.88	1172.52
Depreciation	44.03	76.31	79.36	79.36	79.36
<b>Interest on Loan</b>					
Gross Normative Loan	769.95	1043.91	1129.00	1129.00	1129.00
Cumulative Repayment upto Previous Year	0.00	44.03	120.34	199.70	279.05
Net Loan-Opening	769.95	999.88	1008.66	929.31	849.95
Addition due to Additional Capitalisation	273.96	85.09	0.00	0.00	0.00
Repayment during the year	44.03	76.31	79.36	79.36	79.36
Net Loan-Closing	999.88	1008.66	929.31	849.95	770.59
Average Loan	884.91	1004.27	968.99	889.63	810.27
Weighted Average Rate of Interest on Loan (%)	9.9194	9.9194	9.9147	9.9132	9.9148
Interest	59.88	99.62	96.07	88.19	80.34
<b>Return on Equity</b>					
Opening Equity	329.98	447.39	483.86	483.86	483.86



Particulars (Asset-III)	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Addition due to Additional Capitalisation	117.41	36.47	0.00	0.00	0.00
Closing Equity	447.39	483.86	483.86	483.86	483.86
Average Equity	388.68	465.62	483.86	483.86	483.86
Return on Equity (Base Rate ) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax ) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	52.00	91.31	94.88	94.88	94.88
<b>Interest on Working Capital</b>					
Maintenance Spares	6.17	9.35	9.66	9.98	10.31
O & M expenses	3.43	5.19	5.36	5.54	5.73
Receivables	33.82	56.52	57.41	56.44	55.49
Total	43.42	71.06	72.43	71.96	71.52
Interest	5.86	9.59	9.78	9.71	9.66
<b>Annual Transmission Charges</b>					
Depreciation	44.03	76.31	79.36	79.36	79.36
Interest on Loan	59.88	99.62	96.07	88.19	80.34
Return on Equity	52.00	91.31	94.88	94.88	94.88
Interest on Working Capital	5.86	9.59	9.78	9.71	9.66
O & M Expenses	41.14	62.30	64.37	66.51	68.71
<b>Total</b>	<b>202.91</b>	<b>339.12</b>	<b>344.46</b>	<b>338.66</b>	<b>332.94</b>

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

39. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 42 of the 2009 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 Regulation 42 of the 2009 Tariff Regulations.



### **Licence Fee**

40. The petitioner has requested to allow the petitioner to bill and recover Licence fee separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee in accordance with Clause (1)(b) of Regulation 42A of the 2009 Tariff Regulations.

### **Service Tax**

41. The petitioner has sought to recover Service Tax on Transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature.

### **Sharing of Transmission Charges**

42. 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.

43. This order disposes of Petition No. 116/TT/2014.

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

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



**ANNEXURE****DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO****(₹ in lakh)**

Particulars (Asset-I)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.3.2012)- Loan 3-	10.25%	227.00	0.00	227.00
BOND XLI Loan 1-	8.85%	44.00	0.00	44.00
BOND XLIII Loan 2-	7.93%	40.00	0.00	40.00
PROPOSED LOAN 2014-15 (10.25%) Loan 4	10.25%	75.77	0.00	75.77
<b>Total</b>		<b>386.77</b>	<b>0.00</b>	<b>386.77</b>

**(₹ in lakh)**

Particulars (Asset-II)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.3.2012)- Loan 3-	10.25%	220.00	0.00	220.00
BOND XLI Loan 1-	8.85%	59.00	0.00	59.00
BOND XLIII Loan 2-	7.93%	40.00	0.00	40.00
PROPOSED LOAN 2014-15 (10.25%) Loan 4	10.25%	288.26	0.00	288.26
<b>Total</b>		<b>607.26</b>	<b>0.00</b>	<b>607.26</b>

**(₹ in lakh)**

Particulars (Asset-III)	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.3.2012)- Loan 3-	10.25%	494.50	0.00	494.50
BOND XLI Loan 1-	8.85%	72.18	0.00	72.18
BOND XLIII Loan 2-	7.93%	87.86	0.00	87.86
PROPOSED LOAN 2014-15 (10.25%) Loan 4	10.25%	266.89	0.00	266.89
<b>Total</b>		<b>921.43</b>	<b>0.00</b>	<b>921.43</b>



**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN  
FOR TARIFF PERIOD 2014-19**

(₹ in lakh)

<b>Particulars (Asset-I)</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	386.77	386.77	386.77	386.77	386.77
Cumulative Repayment of loan upto previous year	0	0	0	24.31	51.95
Net Loan Opening	386.77	386.77	386.77	362.46	334.82
Additions during the year	0	0	0	0	0
Repayment during the year	0	0	24.31	27.64	33.95
Net Loan Closing	386.77	386.77	362.46	334.82	300.87
Average Loan	386.77	386.77	374.62	348.64	317.85
Weighted Average Rate of Interest	9.8508%	9.8508%	9.8448%	9.8411%	9.8413%
Interest	38.1	38.1	36.88	34.31	31.28

(₹ in lakh)

<b>Particulars (Asset-II)</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	607.26	607.26	607.26	607.26	607.26
Cumulative Repayment of loan upto previous year	0	0	0	24.92	53.17
Net Loan Opening	607.26	607.26	607.26	582.34	554.09
Additions during the year	0	0	0	0	0
Repayment during the year	0	0	24.92	28.25	52.27
Net Loan Closing	607.26	607.26	582.34	554.09	501.82
Average Loan	607.26	607.26	594.80	568.22	527.96
Weighted Average Rate of Interest	9.9611%	9.9611%	9.9613%	9.9663%	9.9724%
Interest	60.49	60.49	59.25	56.63	52.65

(₹ in lakh)

<b>Particulars (Asset-III)</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	921.43	921.43	921.43	921.43	921.43
Cumulative Repayment of loan upto previous year	0	0	0	50.98	109.28
Net Loan Opening	921.43	921.43	921.43	870.45	812.15
Additions during the year	0	0	0	0	0
Repayment during the year	0	0	50.98	58.3	80.54





Net Loan Closing	921.43	921.43	870.45	812.15	731.61
Average Loan	921.43	921.43	895.94	841.30	771.88
Weighted Average Rate of Interest	9.9194%	9.9194%	9.9147%	9.9132%	9.9148%
Interest	91.4	91.4	88.83	83.4	76.53

