

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO. 227/TT/2014**

**Coram:**

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

**Date of Order : 20.09.2017**

**In the matter of:**

Determination of transmission tariff for for Asset-1: 765 kV line Bays & 3\*80 MVAR Switchable line Reactor at 765 kV Jabalpur Pooling Substation (for 765 kV S/C Jabalpur-Bhopal line), Asset-2:765 kV Line BAYS & 3\*80 MVAR line reactor at 765 kV Indore S/S(for 765 kV S/C Bhopal-Indore line) and Asset-3:Extension of 765 kV Aurangabad substation for 765 kV S/C line bay under "Line bays and reactor provision at Powergrid sub-stations associated with system strengthening for western region" for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 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-122001 (Haryana)

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Management Company Ltd.  
Shakti Bhawan, Rampur  
Jabalpur – 482008
2. Maharashtra State Electricity Distribution Co. Ltd.  
Prakashgad, 4th Floor  
Andheri (East), Mumbai - 400 052
3. Gujarat Urja Vikas Nigam Ltd.  
Sardar Patel Vidyut Bhawan,  
Race Course Road  
Vadodara - 390 007



4. Electricity Department Govt. Of Goa  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, Goa - 403 001
5. Electricity Department  
Administration of Daman & Diu  
Daman - 396 210
6. Electricity Department  
Administration of Dadra Nagar Haveli  
U.T., Silvassa - 396 230
7. Chhattisgarh State Electricity Board  
P.O.Sunder Nagar, Dangania, Raipur  
Chhatisgarh-492013
8. Madhya Pradesh Audyogik Kendra  
Vikas Nigam (Indore) Ltd.  
3/54, Press Complex, Agra-Bombay Road,  
Indore- 452 008

....Respondents

The following were present:

For Petitioner: Shri Piyush Awasthi, PGCIL  
Shri Mohd. Mohsin, PGCIL  
Shri Pankaj Sharma, PGCIL  
Shri S.S. Raju, PGCIL  
Shri Rakesh Prasad, PGCIL  
Shri Jasbir Singh, PGCIL  
Shri Aryaman Saxena, PGCIL  
Shri M.M. Mondal, PGCIL

For Respondents: None

### **ORDER**

The petition has been preferred by Power Grid Corporation of India Limited ("the petitioner") for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") in respect of 765 kV line Bays & 3\*80 MVAR Switchable line Reactor at 765 kV Jabalpur Pooling Substation (for 765 kV S/C

Jabalpur-Bhopal line) (hereinafter referred as "Asset-1") for the period from anticipated COD of 15.9.2014 to 31.3.2019, 765 kV Line bays & 3\*80 MVAR line reactor at 765 kV Indore sub-station (for 765 kV S/C Bhopal-Indore line) (hereinafter referred as "Asset-2") from anticipated COD of 15.8.2014 to 31.3.2019 and Extension of 765 kV Aurangabad substation for 765 kV S/C line bay (hereinafter referred as "Asset-3") from anticipated COD of 29.5.2014 to 31.3.2019 under "line bays and reactor provision at Powergrid sub-stations associated with system strengthening for Western Region" (hereinafter referred to as "the transmission assets").

2. The scheme has been discussed and agreed in the 29th Standing Committee Meeting (SCM) of Power System Planning in Western Region held on 10.9.2009 The scope of work covered is as follows:-

**Substations:**

- (a) 765/400 kV Jabalpur Pooling SubStation [Extn]  
765 kV Line Bays  
240 MVAR Switchable line reactor
- (b) 765/400 kV Indore SubStation [Extn]  
765 kV Line Bays  
240 MVAR Switchable line reactor
- (c) 765/400 kV Aurangabad SubStation [Extn]  
765 kV Line Bays
- (d) 765/400 kV Vadodara Sub Station [Extn]  
765 kV Line Bays  
240 MVAR line reactor

3. The Investment Approval (IA) and expenditure sanction to the transmission project was accorded by Board of Directors of the petitioner company, vide



Memorandum No. C/CP/WR-182 dated 22.3.2012 with an estimated cost of ₹14571.00 lakh including IDC of ₹680.00 lakh based on 4th Quarter of 2011 price level. Further, the petitioner vide affidavit dated 1.6.2016 has submitted revised cost estimates vide Memorandum No. C/CP/RCE-Line bays-WR dated 30.5.2016 with an estimated cost of ₹14086.00 lakh including IDC of ₹552.00 lakh.

4. The Annual Fixed Charges for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 19.6.2014.

5. The petitioner has served the petition on the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments/objections have been received from the public in response to the notice in newspaper. No reply has been filed by the respondents. The hearing in this matter was held on 14.3.2016. The petitioner was directed to submit additional information in respect of the instant transmission assets. The petitioner has filed the additional information vide affidavit dated 14.11.2014, 8.3.2016, and 1.6.2016.

6. Having heard the representatives of the petitioner and respondents, and perused the material on record, we proceed to determine the tariff in accordance with the Tariff Regulations, 2014.

7. The transmission charges claimed by the petitioner based on the actual date of commercial operation i.e. 20.10.2014, 5.10.2014 and 29.5.2014 with regard to Asset-1, 2 and 3 respectively are as follows:-

(₹ in lakh)

Asset-1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	61.81	182.99	231.06	245.87	245.87
Interest on Loan	79.01	221.66	263.31	258.93	234.86
Return on Equity	68.75	204.29	257.93	274.51	274.51
Interest on Working Capital	9.01	23.65	27.27	28.23	28.01
O & M Expenses	75.80	174.44	180.24	186.22	192.40
<b>Total</b>	<b>294.38</b>	<b>807.03</b>	<b>959.81</b>	<b>993.76</b>	<b>975.65</b>

(₹ in lakh)

Asset-2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	66.73	154.33	170.94	175.46	175.46
Interest on Loan	79.45	172.92	177.74	167.08	150.90
Return on Equity	74.23	172.21	190.61	195.67	195.67
Interest on Working Capital	7.35	16.31	17.39	17.53	17.33
O & M Expenses	41.30	87.22	90.12	93.11	96.20
<b>Total</b>	<b>269.06</b>	<b>602.99</b>	<b>646.80</b>	<b>648.85</b>	<b>635.56</b>

(₹ in lakh)

Asset-3					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	19.60	35.22	40.05	41.45	41.45
Interest on Loan	23.48	40.14	42.99	41.22	37.41
Return on Equity	22.21	39.97	45.81	47.66	47.66
Interest on Working Capital	5.43	7.47	7.94	8.14	8.23
O & M Expenses	71.03	87.22	90.12	93.11	96.20
<b>Total</b>	<b>141.75</b>	<b>210.02</b>	<b>226.91</b>	<b>231.58</b>	<b>230.95</b>

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

(₹ in lakh)

Asset-1					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	14.07	14.54	15.02	15.52	16.03
Maintenance Spares	25.33	26.17	27.04	27.93	28.86
Receivables	109.29	134.51	159.97	165.63	162.61
Total working capital	<b>148.69</b>	<b>175.22</b>	<b>202.03</b>	<b>28.23</b>	<b>28.01</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	9.01	23.65	27.27	28.23	28.01



(₹ in lakh)

Asset-2					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	7.03	7.27	7.51	7.76	8.02
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	91.66	100.50	107.80	108.14	105.93
Total working capital	111.35	120.85	128.83	129.87	128.38
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	7.35	16.31	17.39	17.53	17.33

(₹ in lakh)

Asset-3					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O&M Expenses	7.04	7.27	7.51	7.76	8.02
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	28.08	35.00	37.82	38.60	38.49
Total working capital	47.78	<b>55.35</b>	<b>58.85</b>	<b>60.33</b>	<b>60.94</b>
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest on working capital	5.43	7.47	7.94	8.14	8.23

### Date of Commercial Operation (COD)

9. The petitioner vide affidavit dated 8.3.2016 has submitted that actual COD of Asset-1, 2 and 3 was 20.10.2014, 5.10.2014 and 29.5.2014 respectively. The petitioner has sought approval of COD in accordance with proviso (ii) of clause (3) of Regulation 4 of the 2014 Tariff Regulations. It has submitted that due to non-readiness of downstream system viz. 765 kV S/C Jabalpur-Bhopal line, 765 kV S/C Bhopal-Indore line and 765 kV S/C Aurangabad- Dhule line, it has not been able to put the assets into services for the reasons not attributable to itself, its suppliers, or contractors, but on account of the delay in commissioning of downstream system by Bhopal Dhule Transmission Company Limited. It has further submitted that the case qualifies for approval of date of commercial operation prior to the element of coming

into regular service and sought approval of COD under proviso (ii) of clause (3) of Regulation 4 of the 2014 Tariff Regulations.

10. 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

(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.  
xxx”

11. In support of its claim of COD for Asset-1, 2 and 3, 20.10.2014, 5.10.2014 and 29.5.2014 respectively, the petitioner has also submitted the RLDC trial run certificate for the instant assets vide affidavit dated 30.3.2017. It is noted that the COD of the downstream system for the Asset-1 is 9.6.2015 (Jabalpur- Bhopal 765 kV S/C transmission line), Asset-2 is 19.11.2014 (Bhopal- Indore 765 kV S/C transmission line) and Asset-3 is 5.12.2014 (Aurangabad- Dhule 765 kV S/C transmission line). In compliance with the ROP dated 9.10.2014, Bhopal Dhule Transmission Company Limited has filed its reply vide affidavit dated 11.11.2014 that the downstream lines corresponding to Asset 1, 2 and 3 were anticipated to be commissioned on 15.3.2015, 15.11.2014 and 20.11.2014 respectively.

12. We have considered the submissions of the petitioner. It is observed that the petitioner was ready with its assets and was not able to put them into service as the downstream assets were not ready. As such, the assets were not put into regular service for reasons not attributable to the petitioner, its contractors or suppliers. Accordingly, the COD of Asset 1, 2 and 3 is allowed as prayed by the petitioner.

### **Capital Cost**

13. Regulation 9 (1), 9 (2) and 10 (1) of the 2014 Tariff Regulations specify 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:

14. The details of apportioned approved cost, actual capital expenditure incurred as on the date of commercial operation and the estimated additional capital expenditure



projected to be incurred for the period from COD to 31.3.2019, as per the Auditor Certificate dated 9.10.2015 for the transmission asset is summarized below:-

(₹ in lakh)

Asset	Apportioned approved cost as per FR	Apportioned approved cost as per RCE	Capital cost on COD	Estimated additional capital expenditure			Total estimated cost
				2014-15	2015-16	2016-17	
Asset-1	4289.22	4736.30	2392.09	444.93	1245.56	561.14	4643.72
Asset-2	3681.21	3436.73	2484.64	216.54	437.61	171.22	3310.01
Asset-3	992.13	986.90	288.48	320.23	134.79	62.78	806.28

15. The admissible capital cost of the transmission asset as on COD is worked out in the subsequent paragraphs taking into consideration the initial spares and IEDC and IDC amount.

### **Time Over-run**

16. As per the Investment Approval dated 22.3.2012 the transmission assets were scheduled to be commissioned within 24 months of the IA i.e. by 23.3.2014, against which the transmission assets were commissioned on 20.10.2014, 5.10.2014 and 29.5.2014 respectively. Accordingly, there has been time over-run of 212 days, 196 days and 67 days in commissioning of Asset-1, 2 and 3 respectively.

17. The petitioner has submitted that due to non-readiness of the downstream system viz. 765 kV S/C Jabalpur-Bhopal line, 765 kV S/C Bhopal-Indore line and 765 kV S/C Aurangabad- Dhule line), it has not been able to provide services for the reasons not attributable to itself, its suppliers, or contractors, but on account of the delay in commissioning of downstream system by Bhopal Dhule Transmission Company Limited.

18. In view of the non-readiness of downstream system, the time over-run in all the three assets is being condoned and IDC and IEDC capitalised for the period.

## IDC & IEDC

19. The petitioner has submitted vide affidavit dated 8.3.2016 that out of the total IDC claimed on accrual basis of ₹122.69 lakh, ₹72.99 lakh, ₹5.73 lakh for Asset-1, 2 and 3 respectively as per the Auditor`s certificate dated 9.10.2015, the IDC discharged on cash basis was ₹107.91 lakh, ₹58.74 lakh and ₹5.73 lakh respectively for Asset-1, 2 and 3 as on their COD and the remaining IDC has been discharged over the tariff period 2014-19. The petitioner has further submitted that entire IEDC has been discharged on cash basis as on COD of the assets. The same has been considered for the purpose of tariff calculation of the instant assets.

## Capital Cost

20. As per the IA, the estimated cost of the project was ₹14571.00 lakh which was subsequently revised vide affidavit dated 1.6.2016 to an estimated cost of ₹14086 lakh. The estimated completion cost for all the assets is within the apportioned approved cost as per RCE submitted by the petitioner vide affidavit dated 1.6.2016. Hence, there is no cost over-run in commissioning of the instant assets.

(₹ in lakh)

Asset	Apportioned Approved Cost as per FR	Apportioned Approved Cost as per RCE	Capital cost on COD	Estimated Additional capital expenditure			Total Estimated Cost
				2014-15	2015-16	2016-17	
Asset-1	4289.22	4736.30	2377.31	451.84	1253.43	561.14	4643.72
Asset-2	3681.21	3436.73	2470.39	217.01	451.39	171.22	3310.01
Asset-3	992.13	986.90	288.48	320.23	134.79	62.78	806.28

## Initial Spares

21. The cut-off date for Asset-1 and 2 is 31.3.2017, and for Asset-3 is 31.3.2016 in terms of Clause 13 of Regulation 3 of the 2014 Tariff Regulations.

22. The petitioner has claimed initial spares of ₹265.44 lakh, ₹193.00 lakh and ₹45.11 lakh pertaining to sub-station corresponding to the capital cost of ₹4504.16 lakh, ₹3219.64 lakh and ₹709.27 lakh in respective elements of Asset-1, 2 and 3 (excluding IDC, IEDC, land cost and cost of civil works) up to the cut-off dates.

23. The initial spares claimed by the petitioner in case of Asset 1 and 2 are within the norms specified in Regulation 13 of 2014 of the Tariff Regulations. However, the initial spares are in excess of the norms specified in Regulation 13 of 2014 of the Tariff Regulations in case of Asset-3. Hence, excess initial spares have been deducted from the capital cost as on COD of Asset 3. The initial spares allowed in accordance with Regulation 13 of 2014 Tariff Regulations are as follows:-

(₹ in lakh)

Particulars,	Asset-1	Asset-2	Asset-3
Capital cost as on cut off date	4504.16	3219.64	709.27
Initial Spares as per Auditor's Certificate	265.54	193.00	45.11
Ceiling limit as per Regulation 13 of 2014 Tariff Regulations (%)	6.00	6.00	6.00
Initial spares worked out	270.55	193.19	42.39
Excess initial spares claimed	0.00	0.00	2.72

24. Based on the above, capital costs considered as on COD, after capitalization of IDC, IEDC and initial spares for the purpose of the determination of transmission tariff are as below:-

(₹ in lakh)

Asset	Asset-1	Asset-2	Asset-3
Cost as on COD	2392.09	2484.64	288.48

<b>Asset</b>	<b>Asset-1</b>	<b>Asset-2</b>	<b>Asset-3</b>
IDC/IEDC adjustment	14.78	14.25	0.00
Initial Spares Disallowed	0.00	0.00	2.72
<b>Cost considered as on COD</b>	<b>2377.31</b>	<b>2470.39</b>	<b>285.76</b>

### **Additional Capital Expenditure**

25. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

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

- (i) Undischarged liabilities recognized to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
- (v) Change in law or compliance of any existing law.”

26. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines cut-off date 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:

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer ”

27. The cut-off date for Asset-1, Asset-2 and Asset-3 is 31.3.2017, 31.3.2017 and 31.3.2016 respectively. The petitioner has claimed an estimated additional capital expenditure of ₹2266.41 lakh, ₹839.62 lakh and ₹517.80 lakh up to cut off date in respect of Asset 1, 2 and 3 respectively, on account of balance and retention payments.

28. The additional capital expenditure claimed by the petitioner is on account of balance and retention payments and the total estimated completion cost of the transmission assets is within its apportioned approved cost. The same is allowed under Regulation 14(1) of 2014 Tariff Regulations, subject to true up on actual basis. Thus the additional capital expenditure allowed for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset	Apportioned Approved Cost as per	Apportioned Approved Cost as per RCE	Capital cost approved on COD	Additional capital expenditure approved			Estimated capital cost as on 31.3.2019
				2014-15	2015-16	2016-17	
Asset-1	4289.22	4736.30	2377.31	451.84	1253.43	561.14	4643.72
Asset-2	3681.21	3436.73	2470.39	217.01	451.39	171.22	3310.01
Asset-3	992.13	986.90	285.76	320.23	134.79	62.78	803.56

### **Debt: Equity**

29. Clause (1) of Regulation 19 of the 2014 Tariff Regulations provides 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:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

30. The petitioner has considered the debt: equity ratio of 70:30, which is in line with 2014 Tariff Regulations, and the same is considered for calculation of tariff.

31. Accordingly, the details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset-1						
Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2014-19	(%)	Capital cost as on 31.3.2019	(%)
Debt	1664.12	70.00	1586.49	70.00	3250.60	70.00
Equity	713.19	30.00	679.92	30.00	1393.12	30.00
<b>Total</b>	<b>2377.31</b>	<b>100.00</b>	<b>2266.41</b>	<b>100.00</b>	<b>4643.72</b>	<b>100.00</b>

(₹ in lakh)

Asset-2						
Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2014-19	(%)	Capital cost as on 31.3.2019	(%)
Debt	1,729.28	70.00	587.73	70.00	2317.01	70.00
Equity	741.11	30.00	251.89	30.00	993.00	30.00
<b>Total</b>	<b>2470.39</b>	<b>100.00</b>	<b>839.62</b>	<b>100.00</b>	<b>3310.01</b>	<b>100.00</b>

(₹ in lakh)

Asset-3						
Funding	Capital cost as on COD	(%)	Additional capital expenditure during 2014-19	(%)	Capital cost as on 31.3.2019	(%)
Debt	200.03	70.00	362.46	70.00	562.49	70.00
Equity	85.73	30.00	155.34	30.00	241.07	30.00
<b>Total</b>	<b>285.76</b>	<b>100.00</b>	<b>517.80</b>	<b>100.00</b>	<b>803.56</b>	<b>100.00</b>

### Return on Equity (“ROE”)

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

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

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

**“25. Tax on Return on Equity:**

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

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.”

33. The petitioner has claimed ROE at the rate of 20.961% after grossing up the ROE of 15.5% with MAT rate as per the above said Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

34. 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.

35. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the

MAT rate applicable during 2013-14 has been considered for the purpose of ROE, 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-1</b>					
<b>Return on Equity</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	713.19	848.75	1224.77	1393.12	1393.12
Additions	135.55	376.03	168.34	0.00	0.00
Closing Equity	848.75	1224.77	1393.12	1393.12	1393.12
Average Equity	780.97	1036.76	1308.95	1393.12	1393.12
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
<b>Return on Equity</b>	<b>68.39</b>	<b>204.30</b>	<b>257.93</b>	<b>274.52</b>	<b>274.52</b>

(₹ in lakh)

<b>Asset-2</b>					
<b>Return on Equity</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	741.11	806.21	941.63	993.00	993.00
Additions	65.10	135.42	51.37	0.00	0.00
Closing Equity	806.21	941.63	993.00	993.00	993.00
Average Equity	773.66	873.92	967.31	993.00	993.00
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	73.99	172.21	190.61	195.67	195.67

(₹ in lakh)

<b>Asset-3</b>					
<b>Return on Equity</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	85.73	181.80	222.23	241.07	241.07
Additions	96.07	40.44	18.83	0.00	0.00
Closing Equity	181.80	222.23	241.07	241.07	241.07
Average Equity	133.76	202.02	231.65	241.07	241.07
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	22.06	39.81	45.65	47.50	47.50





## Interest on Loan (“IoL”)

36. Clause 5 and 6 of Regulation 26 of 2014 Tariff Regulations provides that:-

“(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.”

37. 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 petitioner has also prayed that they will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. 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-I and the IOL has been worked out as follows:-

(₹ in lakh)

Asset-1					
Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1664.12	1980.41	2857.81	3250.60	3250.60
Cumulative Repayment upto Previous Year	0.00	61.48	244.46	475.52	721.39
Net Loan-Opening	1664.12	1918.92	2613.34	2775.08	2529.21
Additions	316.29	877.40	392.80	0.00	0.00



Asset-1					
Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Repayment during the year	61.48	182.98	231.06	245.87	245.87
Net Loan-Closing	1918.92	2613.34	2775.08	2529.21	2283.34
Average Loan	1791.52	2266.13	2694.21	2652.15	2406.27
Weighted Average Rate of Interest on Loan (%)	9.8248	9.7829	9.7743	9.7641	9.7615
<b>Interest on Loan</b>	<b>78.60</b>	<b>221.69</b>	<b>263.34</b>	<b>258.96</b>	<b>234.89</b>

(₹ in lakh)

Asset-2					
Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	1729.28	1881.19	2197.16	2317.01	2317.01
Cumulative Repayment upto Previous Year	0.00	66.51	220.85	391.79	567.25
Net Loan-Opening	1729.28	1814.67	1976.31	1925.23	1749.77
Additions	151.91	315.97	119.85	0.00	0.00
Repayment during the year	66.51	154.33	170.94	175.46	175.46
Net Loan-Closing	1814.67	1976.31	1925.23	1749.77	1574.30
Average Loan	1771.98	1895.49	1950.77	1837.50	1662.04
Weighted Average Rate of Interest on Loan (%)	9.1647	9.1237	9.1123	9.0941	9.0803
<b>Interest on Loan</b>	<b>79.20</b>	<b>172.94</b>	<b>177.76</b>	<b>167.10</b>	<b>150.92</b>

(₹ in lakh)

Asset-3					
Interest on Loan	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	200.03	424.20	518.55	562.49	562.49
Cumulative Repayment upto Previous Year	0.00	19.47	54.54	94.45	135.75
Net Loan-Opening	200.03	404.73	464.01	468.05	426.74
Additions	224.16	94.35	43.95	0.00	0.00
Repayment during the year	19.47	35.07	39.91	41.31	41.31
Net Loan-Closing	404.73	464.01	468.05	426.74	385.43
Average Loan	302.38	434.37	466.03	447.39	406.09
Weighted Average Rate of Interest on Loan (%)	9.1721	9.2058	9.1943	9.1832	9.1846
<b>Interest on Loan</b>	<b>23.33</b>	<b>39.99</b>	<b>42.85</b>	<b>41.08</b>	<b>37.30</b>

### Depreciation

38. Clause (2), (5) and (6) of Regulation 27 of 2014 Tariff Regulations provide that:-

"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."

39. 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"

40. The depreciation has been worked out considering the admitted capital cost as on COD and the additional capital expenditure admitted during 2014-19 period. The weighted average useful life of the asset has been considered as 25 years in accordance with the above Regulation. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)

Asset-1					
Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	2377.31	2829.15	4082.58	4643.72	4643.72
Additional Capitalisation	451.84	1253.43	561.14	0.00	0.00
Closing Gross Block	2829.15	4082.58	4643.72	4643.72	4643.72
Average Gross Block	2603.23	3455.87	4363.15	4643.72	4643.72
Rate of Depreciation (%)	5.29	5.29	5.30	5.29	5.29
Depreciable Value	2342.91	3110.28	3926.84	4179.35	4179.35
Balance Useful life of the asset	0	25	24	23	22
Remaining Depreciable Value	2342.91	3110.28	3743.86	3765.31	3519.44
Depreciation	61.48	182.98	231.06	245.87	245.87
Cumulative depreciation	61.48	244.46	475.52	721.39	967.27

(₹ in lakh)

Asset-2					
Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	2470.39	2687.40	3138.79	3310.01	3310.01
Additional Capitalisation	217.01	451.39	171.22	0.00	0.00
Closing Gross Block	2687.40	3138.79	3310.01	3310.01	3310.01
Average Gross Block	2578.90	2913.10	3224.40	3310.01	3310.01
Rate of Depreciation	5.29	5.30	5.30	5.30	5.30
Depreciable Value	2321.01	2621.79	2901.96	2979.01	2979.01
Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	2321.01	2555.27	2681.12	2587.24	2411.79
Depreciation	66.51	154.33	170.93	175.45	175.45
Cumulative depreciation	66.51	220.84	391.77	567.22	742.67

(₹ in lakh)

Asset-3					
Depreciation	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	285.76	605.99	740.78	803.56	803.56
Additional Capitalisation	320.23	134.79	62.78	0.00	0.00
Closing Gross Block	605.99	740.78	803.56	803.56	803.56
Average Gross Block	445.88	673.39	772.17	803.56	803.56
Rate of Depreciation	5.19	5.21	5.17	5.14	5.14
Depreciable Value	401.29	750.15	755.61	751.46	723.21
Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	401.29	586.58	640.41	628.76	587.45
Depreciation	19.47	35.07	39.91	41.31	41.31
Cumulative depreciation	19.47	54.54	94.45	135.75	177.06



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

41. The instant petition covers a total of 4 nos. 765 kV bays, Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Norm (₹ lakh/bay)</b>					
765 kV	84.42	87.22	90.12	93.11	96.20

42. 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.

43. 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 sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. The details of O&M Expenses allowed are given hereunder:-

(₹ in lakh)

Asset	Year				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-1 (No. of bays-02)	75.40	174.44	180.24	186.22	192.40



Asset	Year				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-2 (No. of bays-01)	41.17	87.22	90.12	93.11	96.20
Asset-3 (No. of bays-01)	71.01	87.22	90.12	93.11	96.20

### **Interest on Working Capital**

44. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies as follows:

**“28. Interest on Working Capital**

- (c).(i) Receivables equivalent to two months of fixed cost;  
(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and  
(iii) Operation and maintenance expenses for one month”

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

45. The petitioner has considered the rate of interest on working capital to be 13.50%.

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

(₹ in lakh)

Asset-1					
Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	14.06	14.53	15.01	15.51	16.03
Maintenance Spares	25.33	26.17	27.04	27.93	28.86
Receivables	109.29	134.51	159.97	165.63	162.62
Total	148.68	175.21	202.02	209.08	207.50
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
<b>Interest on Working Capital</b>	<b>8.96</b>	<b>23.65</b>	<b>27.27</b>	<b>28.23</b>	<b>28.01</b>

(₹ in lakh)

Asset-2					
Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	7.03	7.27	7.51	7.76	8.01
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	91.79	100.76	108.07	108.41	106.19
Total	111.49	121.11	129.09	130.13	128.63
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	15.05	16.35	17.43	17.57	17.37

(₹ in lakh)

Asset-3					
Interest on Working Capital	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	7.03	7.27	7.51	7.76	8.01
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	28.00	34.92	37.74	38.52	38.42
Total	47.69	55.27	58.77	60.25	60.86
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	6.44	7.46	7.93	8.13	8.22

### **ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD**

47. The transmission charges allowed for the instant transmission assets for the 2014-19 tariff period are summarised below:-

(₹ in lakh)

Asset-1					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
<b>Depreciation</b>					
Opening Gross Block	2377.31	2829.15	4082.58	4643.72	4643.72
Additional Capitalisation	451.84	1253.43	561.14	0.00	0.00
Closing Gross Block	2829.15	4082.58	4643.72	4643.72	4643.72
Average Gross Block	2603.23	3455.87	4363.15	4643.72	4643.72
Rate of Depreciation (%)	5.29	5.29	5.30	5.29	5.29
Depreciable Value	2342.91	3110.28	3926.84	4179.35	4179.35
Balance Useful life of the asset	0	25	24	23	22
Remaining Depreciable Value	2342.91	3110.28	3743.86	3765.31	3519.44
Depreciation	61.48	182.98	231.06	245.87	245.87
Cumulative depreciation	61.48	244.46	475.52	721.39	967.27
<b>Interest on Loan</b>					
Gross Normative Loan	1664.12	1980.41	2857.81	3250.60	3250.60
Cumulative Repayment upto Previous Year	0.00	61.48	244.46	475.52	721.39
Net Loan-Opening	1664.12	1918.92	2613.34	2775.08	2529.21
Additions	316.29	877.40	392.80	0.00	0.00





<b>Asset-1</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Repayment during the year	61.48	182.98	231.06	245.87	245.87
Net Loan-Closing	1918.92	2613.34	2775.08	2529.21	2283.34
Average Loan	1791.52	2266.13	2694.21	2652.15	2406.27
Weighted Average Rate of Interest on Loan (%)	9.8248	9.7829	9.7743	9.7641	9.7615
Interest	78.60	221.69	263.34	258.96	234.89
<b>Return on Equity</b>					
Opening Equity	713.19	848.75	1224.77	1393.12	1393.12
Additions	135.55	376.03	168.34	0.00	0.00
Closing Equity	848.75	1224.77	1393.12	1393.12	1393.12
Average Equity	780.97	1036.76	1308.95	1393.12	1393.12
Return on Equity (Base Rate ) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year (%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	68.39	204.30	257.93	274.52	274.52
<b>Interest on Working Capital</b>					
O & M expenses	14.06	14.53	15.01	15.51	16.03
Maintenance Spares	25.33	26.17	27.04	27.93	28.86
Receivables	109.29	134.51	159.97	165.63	162.62
Total	148.68	175.21	202.02	209.08	207.50
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	8.96	23.65	27.27	28.23	28.01
<b>Annual Transmission Charges</b>					
Depreciation	61.48	182.98	231.06	245.87	245.87
Interest on Loan	78.60	221.69	263.34	258.96	234.89
Return on Equity	68.39	204.30	257.93	274.52	274.52
Interest on Working Capital	8.96	23.65	27.27	28.23	28.01
O & M Expenses	75.40	174.44	180.24	186.22	192.40
<b>Total</b>	<b>292.85</b>	<b>807.06</b>	<b>959.85</b>	<b>993.80</b>	<b>975.70</b>

(₹ in lakh)

<b>Asset-2</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	2470.39	2687.40	3138.79	3310.01	3310.01
Additional Capitalisation	217.01	451.39	171.22	0.00	0.00
Closing Gross Block	2687.40	3138.79	3310.01	3310.01	3310.01
Average Gross Block	2578.90	2913.10	3224.40	3310.01	3310.01
Rate of Depreciation (%)	5.29	5.30	5.30	5.30	5.30
Depreciable Value	2321.01	2621.79	2901.96	2979.01	2979.01
Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	2321.01	2555.27	2681.11	2587.22	2411.76
Depreciation	66.51	154.33	170.94	175.46	175.46
Cumulative depreciation	66.51	220.85	391.79	567.25	742.71





<b>Asset-2</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Interest on Loan</b>					
Gross Normative Loan	1729.28	1881.19	2197.16	2317.01	2317.01
Cumulative Repayment upto Previous Year	0.00	66.51	220.85	391.79	567.25
Net Loan-Opening	1729.28	1814.67	1976.31	1925.23	1749.77
Additions	151.91	315.97	119.85	0.00	0.00
Repayment during the year	66.51	154.33	170.94	175.46	175.46
Net Loan-Closing	1814.67	1976.31	1925.23	1749.77	1574.30
Average Loan	1771.98	1895.49	1950.77	1837.50	1662.04
Weighted Average Rate of Interest on Loan (%)	9.1647	9.1237	9.1123	9.0941	9.0803
Interest	79.20	172.94	177.76	167.10	150.92
<b>Return on Equity</b>					
Opening Equity	741.11	806.21	941.63	993.00	993.00
Additions	65.10	135.42	51.37	0.00	0.00
Closing Equity	806.21	941.63	993.00	993.00	993.00
Average Equity	773.66	873.92	967.31	993.00	993.00
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective yr(%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	73.99	172.21	190.61	195.67	195.67
<b>Interest on Working Capital</b>					
O & M expenses	7.03	7.27	7.51	7.76	8.01
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	91.66	100.50	107.80	108.15	105.93
Total	111.35	120.85	128.83	129.87	128.37
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	15.03	16.31	17.39	17.53	17.33
<b>Annual Transmission Charges</b>					
Depreciation	66.51	154.33	170.94	175.46	175.46
Interest on Loan	79.20	172.94	177.76	167.10	150.92
Return on Equity	73.99	172.21	190.61	195.67	195.67
Interest on Working Capital	7.33	16.31	17.39	17.53	17.33
O & M Expenses	41.17	87.22	90.12	93.11	96.20
<b>Total</b>	<b>268.20</b>	<b>603.02</b>	<b>646.83</b>	<b>648.88</b>	<b>635.58</b>

(₹ in lakh)

<b>Asset-3</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	285.76	605.99	740.78	803.56	803.56
Additional Capitalisation	320.23	134.79	62.78	0.00	0.00
Closing Gross Block	605.99	740.78	803.56	803.56	803.56
Average Gross Block	445.88	673.39	772.17	803.56	803.56
Rate of Depreciation (%)	5.19	5.21	5.17	5.14	5.14



<b>Asset-3</b>					
<b>Particulars</b>	<b>2014-15 (pro-rata)</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Depreciable Value	401.29	750.15	755.61	751.46	723.21
Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	401.29	586.58	640.41	628.76	587.45
Depreciation	19.47	35.07	39.91	41.31	41.31
Cumulative depreciation	19.47	54.54	94.45	135.75	177.06
<b>Interest on Loan</b>					
Gross Normative Loan	200.03	424.20	518.55	562.49	562.49
Cumulative Repayment upto Previous Year	0.00	19.47	54.54	94.45	135.75
Net Loan-Opening	200.03	404.73	464.01	468.05	426.74
Additions	224.16	94.35	43.95	0.00	0.00
Repayment during the year	19.47	35.07	39.91	41.31	41.31
Net Loan-Closing	404.73	464.01	468.05	426.74	385.43
Average Loan	302.38	434.37	466.03	447.39	406.09
Weighted Average Rate of Interest on Loan (%)	9.1721	9.2058	9.1943	9.1832	9.1846
Interest	23.33	39.99	42.85	41.08	37.30
<b>Return on Equity</b>					
Opening Equity	85.73	181.80	222.23	241.07	241.07
Additions	96.07	40.44	18.83	0.00	0.00
Closing Equity	181.80	222.23	241.07	241.07	241.07
Average Equity	133.76	202.02	231.65	241.07	241.07
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective yr(%)	20.961	21.342	21.342	21.342	21.342
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.705
Return on Equity	22.06	39.81	45.65	47.50	47.50
<b>Interest on Working Capital</b>					
O & M expenses	7.03	7.27	7.51	7.76	8.01
Maintenance Spares	12.66	13.08	13.52	13.97	14.43
Receivables	28.00	34.92	37.74	38.52	38.42
Total	47.69	55.27	58.77	60.25	60.86
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	6.44	7.46	7.93	8.13	8.22
<b>Annual Transmission Charges</b>					
Depreciation	19.47	35.07	39.91	41.31	41.31
Interest on Loan	23.33	39.99	42.85	41.08	37.30
Return on Equity	22.06	39.81	45.65	47.50	47.50
Interest on Working Capital	5.42	7.46	7.93	8.13	8.22
O & M Expenses	71.01	87.22	90.12	93.11	96.20
<b>Total</b>	<b>141.28</b>	<b>209.55</b>	<b>226.46</b>	<b>231.14</b>	<b>230.52</b>

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



48. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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 52 (1) of the 2014 Tariff Regulations.

#### **Licence Fee & RLDC Fees and Charges**

49. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 52 (2) (b) of the 2014 Tariff Regulations for 2014-19 tariff period. The petitioner shall also be entitled for recovery of RLDC fee & charges in accordance with Regulations 52 (2) (a) of the 2014 Tariff Regulations for 2014-19 tariff period.

#### **Service Tax**

50. The petitioner has prayed for reimbursement of service tax if it is subjected to such tax in future. We are of the view that the petitioner's prayer is premature.

#### **Foreign Exchange Rate Variation**

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

#### **Sharing of Transmission Charges**

52. The petitioner has submitted that due to non-readiness of corresponding associated system of Bhopal Dhule Transmission Company Limited, the petitioner was not able to provide services for the reasons not attributable to itself, its

suppliers, or contractors, but on account of the delay in commissioning of downstream assets by Bhopal Dhule Transmission Company Limited.

53. The Commission had earlier dealt with the issue of mismatch in commissioning of the transmission system by an ISTS licensee and upstream/downstream system of STU in order dated 24.2.2017 in Petition No. 85/TT/2015. The relevant portion of the order is extracted hereunder:-

"68. In the instant case, the assets of the petitioner have been commissioned but the associated downstream system is not ready due to which assets are not in regular service. Standing committee minutes and RPC minutes in this regard provide as under:-

(a) Minutes of the meeting of the Standing Committee on Power system Planning in Eastern Region held on 8th November, 2008 :

"The following system strengthening works for ER were agreed

iii) 400/132 kV 2X200 MVA S/S near Lakhisarai/Jamalpur) with LILO of both circuits of one of the Kahalgaon-Biharsharif 400 kV D/C line and space provisions for 3rd transformer and 4 nos. of 132 kV line bays.

It was agreed by all the constituents that all the above regional system strengthening work in ER should be pooled with the regional system of ER for the purpose of sharing of transmission charges with corresponding share of generation of ER included in the total ISGS capacity for sharing of transmission charges".

(b) Minutes of the 8th meeting Eastern Regional Power Committee (ERPC) held on 21st November, 2008 is as follows:

"B. System strengthening works in ER

1. 400/132 kV 2X200 MVA S/S near Lakhisarai/Jamalpur) with LILO of both circuits of one of the Kahalgaon-Biharsharif 400 kV D/C line and space provisions for 3rd transformer and 4 nos. of 132 kV line bays.

In the Standing committee, it was also agreed that all the above regional system strengthening work in ER should be pooled with the regional system of ER for the purpose of sharing of transmission charges with corresponding share of generation of ER included in the total ISGS capacity for Sharing of transmission charges."

C. Minutes of the Special meeting of Eastern Regional power Committee held on 30th December, 2008 is as follows:

“It was also agreed that proposal under item no.6, “Suitable interconnection for providing 2nd feeder to Dubri 400 kV sub-station of OPTCL by making LILO of one circuit of 400 kV Baripada-Mendhasal D/C line”, and item no.7(i),”Establishment of 400/220 kV sub-station at Chaibasa by making LILO of both the circuit of 400 kV Rourkela-Jamshedpur D/C line”, would be considered under system strengthening works in ER and treated on regular basis”.

The following system strengthening works for ER were agreed:

a) 400/132 kV,2X200 MVA S/S near Lakhisarai with LILO of both circuits of one of the Kahalgaon-Biharshariff 400 kV D/C line and space provision for 3rd transformer and 4 nos. of 132 kV line bays.

b) 400/132 kV,2X200 MVA S/S at Banka in Bihar with LILO of both circuits of one of the Kahalgaon-Biharshariff D/C line (line not be LILoed at Lakhisarai S/S) and provision of 4 nos. of 132 kV line bays.

j) Establishment of 400/220 kV Chaibasa sub-station and LILO of one circuit of 400 kV Rourkela-Jamshedpur line at 400/220 kV Chaibasa.

69. It is observed that assets covered in the instant petition have been established under system strengthening scheme for Eastern Region and sharing for which has been mentioned to be under ER pool. However, it can be seen that Lakhisarai Sub-station is primarily for feeding power to Bihar and Chaibasa Sub-station is for feeding power to Jharkhand. In this instant case, the drawal feeders from these sub-stations have not been commissioned/delayed due to which assets commissioned by petitioner were not put to regular use.

70. The petitioner has stated that it has continuously followed up with BSPTCL for timely commissioning of downstream network. However, it is observed that the petitioner has relied on the OCC meeting held on 21.2.2014 and subsequent meetings in support of its contention on coordination while the assets were to be commissioned in April, 2014. We are of the view that coordination has to be done well in advance and not just two months before commissioning of the assets. Accordingly, the petitioner is directed to coordinate in advance with STUs regarding the commissioning of its assets

71. The Commission had earlier dealt with the issue of mismatch in commissioning of the transmission system by an ISTS licensee and upstream/downstream system of STU in order dated 4.1.2017 in Petition No. 155/MP/2016. The relevant portion of the order is extracted hereunder:-

“16. The next question arises that who shall bear the transmission charges of the elements from the date of SCOD till the commissioning of downstream asset by PSPCL. The issue regarding payment of transmission charges from the date of SCOD was deliberated in Petition No. 43/MP/2016 and the Commission vide order dated 21.9.2016 laid down the principles for such cases and observed as under:

“24. A related issue arises as to how recovery of transmission charges of transmission licensee shall be made when the transmission system under TBCB is ready as on its scheduled COD as per the provisions of the TSA but cannot be made operational or put to use due to non-availability/ delay in

upstream/ Page 56 of 83 Order in Petition No. 85/TT/2015 downstream system. In our view, ISTS licensee executing the project under TBCB should enter into Implementation Agreement with CTU, STU, inter-State transmission licensee, or the concerned LTTC, as the case may be, who are responsible for executing the upstream/ downstream transmission system and clearly provide the liability for payment of transmission charges in case of the transmission line or upstream/downstream transmission assets. In the absence of Implementation Agreement, the payment liability should fall on the entity on whose account an element is not put to use. For example, if the transmission line is ready but terminal bays belonging to other licensees are not ready, the owners of upstream and downstream terminal bays shall be liable to pay the charges to the owner of transmission line in the ratio of 50:50 till the bays are commissioned. In case one end bays are commissioned, the owner of other end bays shall be liable to pay the entire transmission charges of the transmission line till its bays are commissioned. The above principle shall be followed by CTU in all cases of similar nature in future.”

As per the decision quoted above, if the downstream system of the elements in present case is not commissioned by the schedule date of commercial operation, the owner of the downstream system shall be liable to pay the transmission charges of the transmission system till the downstream system is commissioned. However, the Commission, vide order dated 19.4.2016 in Petition No. 100/TT/2014, observed as under:

"8.The petitioner has prayed for approval of COD under Regulation 4(3)(ii) of 2014 Tariff Regulations. Petitioner has submitted that the downstream system which is the associated 220 kV feeder connections was to be implemented by the RVPNL. The petitioner has made several correspondences to the RVPNL for making the associated 220 kV feeder connections available; however the downstream system was not implemented at the time of filing of this petition. The petitioner, vide its affidavit dated 9.3.2015, has submitted that out of the 6 nos. 220 kV feeders to be implemented by the RVPNL, two feeders have been commissioned.

9. Clause 3 (ii) of Regulation 4 of the 2014 Tariff Regulations provides as under:-

“in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

10. Further, the Commission in its order dated 5.8.2015 in Petition No. 11/SM/2014 in the matter of Non-compliance of Sections 38 and 39 of the Electricity Act, 2003 has stated that:-

“20. Keeping in view the mismatch between commissioning of transmission system by an ISTS licensee and upstream/downstream system of STU, we are of the view that ISTS transmission licensees and STUs should also sign such Implementation Agreement for development of ISTS and downstream system in



coordinated way to avoid any mismatch. We direct staff of the Commission to examine this aspect and propose necessary changes required in the 2014 Tariff Regulations to enable an ISTS licensees and STUs to enter into Implementation Agreement.

21. Since, the process of amendment would take time, we direct STUs to expedite downstream system in a time bound manner so that the transmission system already commissioned is put to use. PGCIL is at liberty to approach the Commission for invoking Regulation 3(12) (c) of the 2009 Tariff Regulations or Regulation 4(3) (ii) of 2014 Tariff Regulations, as the case may be, for COD of the completed assets. Concerned STU, who had requested for provision of downstream line bays in the various meetings of Standing Committee/RPC, shall bear the transmission charges till completion of downstream system."

11. PSPCL submitted that the DOCO certificate given in the petition does not certify that the associated 220kV bays have been charged/commissioned. Hence, as per the certification given in the DOCO certificate, the 220kV bays are not certified to be commissioned. In absence of 220kV line bays, this entire substation/project becomes idle since the purpose of this new substation is to supply 220kV lines in Kotputli area.

12. The petitioner has already completed its work covered under their scope of work but the concerned STU has not completed their scope of work i.e. the implementation of associated 220 kV feeder connections. The petitioner in this matter has made regular correspondence which is evident from the copy of letters submitted to the RVPNL. Petitioner vide affidavit dated 1.2.2016 has submitted the status of 220KV feeders of Kotputli Sub-station. It is evident from the submission that commissioning of 220 KV feeders have been delayed.

13. In view of the above we are approving the COD of the Asset A & B (i) as 1.4.2014 and Asset B (ii) as 10.9.2014 under the Regulation 4 (3(ii)) of the 2014 Tariff Regulations. However, as regards the recovery of the transmission charges is concerned, the transmission charges is to be recovered from the concerned State Discoms in accordance with the transmission service agreements as set forth in forthcoming paragraph of this order. 14. Annual Fixed charges for 2014-19 tariff period are being determined in the succeeding paragraphs."

In the light of the above, PSPCL shall be liable to bear transmission charges from SCOD/actual commissioning whichever is later till commissioning of downstream system post which the assets shall be considered under POC.

17. The petitioner is directed to provide YTC details of its assets to NLDC and CTU. NLDC shall provide the same to RPC for inclusion in RTAs. The assets shall be billed along with bill 1 under the provisions of the Central Electricity Regulatory Commission (Sharing of inter-State Transmission charges and losses), Regulations, 2010 as amended from time to time. ISTS licensees shall forward the details of YTC to be recovered as per formats provided under the Sharing Regulations to NLDC. ISTS licensees shall forward the details of entity along with YTC details from whom it needs to be recovered as per applicable order`s of the Commission to NLDC (only in cases of bilateral billing due to non-availability of upstream/downstream system). Based on the input received from

respective licensees and the Commission`s order, NLDC shall provide details of billing pertaining to non-availability of upstream/downstream system to respective RPCs for incorporation in RTAs for all cases of bilateral billing. On this basis, CTU shall issue the bills. The process given in this para shall be applicable to all future cases of similar nature and all concerned shall duly comply with the same.

72. The assets have been planned to cater to the drawal requirements of Bihar and Jharkhand Discoms. However, due to non-availability of downstream assets the instant assets have not been put to regular use. Accordingly, we are of the view that the transmission charges of Assets-1 to 4 and Assets-5 to 8, from the COD till the commissioning of downstream network will be borne by the Bihar Discoms and by Jharkhand discoms respectively. After that 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.

73. Further, as directed in order dated 5.8.2015 in Petition 11/SM/2014, the petitioner and the STUs should sign implementation Agreement for development of ISTS and downstream system in coordinated way to avoid any mismatch.”

54. It is observed that due to non-availability of downstream assets the instant assets have not been put to regular use. Accordingly, we are of the view that the transmission charges of Assets-1, 2 and 3 from the COD till the commissioning of downstream network will be borne by Bhopal Dhule Transmission Company Limited. After that 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.

55. This order disposes of Petition No. 227/TT/2014.

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

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





## Annexure-1

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19

(₹ in lakh)

Asset 1				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012) -Loan 2-	10.25	794.17	0.00	794.17
BOND XLIII- Loan1	7.93	200.00	0.00	200.00
SBI (2014-15) Loan 3	10.25	501.00	0.00	501.00
BOND XLVI - ADDCAP FOR 2014-15 Loan5-	9.30	0.00	4.84	4.84
BOND XLVI - ADDCAP FOR 2014-15 Loan 6 (Accrual IDC)-	9.30	0.00	311.45	311.45
BOND XLVI Loan 4-	9.30	168.95	0.00	168.95
<b>Total</b>		<b>1664.12</b>	<b>316.29</b>	<b>1980.41</b>

(₹ in lakh)

Asset 2				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012) -Loan 2-	10.25	414.99	0.00	414.99
BOND XLIII- Loan1	7.93	200.00	0.00	200.00
BOND XLVI- Loan 3	9.30	862.26	0.00	862.26
BOND XLVIII - ADDCAP FOR 2014-15 Loan 6- (Accrual IDC)	8.20	0.00	0.33	0.33
BOND XLVI Loan 4-	8.20	252.03	0.00	252.03
BOND XLVI - ADDCAP FOR 2014-15 Loan 5-	8.15	0.00	151.58	151.58
<b>Total</b>		<b>1729.28</b>	<b>151.91</b>	<b>1881.19</b>

(₹ in lakh)

Asset 3				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
SBI (21.03.2012) -Loan 22-	10.25	101.94	0.00	101.94
BOND XLIII- Loan11	7.93	100.00	0.00	100.00
BOND XLVI- ADDCAP For 2014-15 Loan 3	9.30	0.00	224.16	224.16



<b>Asset 3</b>				
<b>Particulars</b>	<b>Interest Rate (%)</b>	<b>Loan deployed as on 1.4.2014</b>	<b>Additions during the tariff period</b>	<b>Total</b>
<b>Total</b>		<b>201.94</b>	<b>224.16</b>	<b>426.10</b>

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

(₹ in lakh)

<b>Asset 1</b>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	1664.12	1980.41	1980.41	1980.41	1980.41
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	72.20	161.07
<b>Net Loans Opening</b>	<b>1664.12</b>	<b>1980.41</b>	<b>1980.41</b>	<b>1908.21</b>	<b>1819.34</b>
Add: Draw(s) during the Year	316.29	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	72.20	88.87	88.87
<b>Net Closing Loan</b>	<b>1980.41</b>	<b>1980.41</b>	<b>1908.21</b>	<b>1819.34</b>	<b>1730.47</b>
Average Net Loan	1822.27	1980.41	1944.31	1863.78	1774.91
Rate of Interest on Loan (%)	9.8248	9.7829	9.7743	9.7641	9.7615
<b>Interest on Loan</b>	<b>179.03</b>	<b>193.74</b>	<b>190.04</b>	<b>181.98</b>	<b>173.26</b>

(₹ in lakh)

<b>Asset 2</b>					
	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	1729.28	1881.19	1881.19	1881.19	1881.19
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	37.73	92.13
<b>Net Loans Opening</b>	<b>1729.28</b>	<b>1881.19</b>	<b>1881.19</b>	<b>1843.46</b>	<b>1789.06</b>
Add: Draw(s) during the Year	151.91	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	37.73	54.40	54.40
<b>Net Closing Loan</b>	<b>1881.19</b>	<b>1881.19</b>	<b>1843.46</b>	<b>1789.06</b>	<b>1734.66</b>
Average Net Loan	1805.24	1881.19	1862.33	1816.26	1761.86
Rate of Interest on Loan (%)	9.1647	9.1237	9.1123	9.0941	9.0803
<b>Interest on Loan</b>	<b>165.44</b>	<b>171.63</b>	<b>169.70</b>	<b>165.17</b>	<b>159.98</b>

(₹ in lakh)

<b>Asset 3</b>					
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	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Opening Loan	201.94	426.10	426.10	426.10	426.10
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	9.27	26.87
<b>Net Loans Opening</b>	<b>201.94</b>	<b>426.10</b>	<b>426.10</b>	<b>416.83</b>	<b>399.23</b>
Add: Draw(s) during the Year	224.16	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	9.27	17.60	17.60
<b>Net Closing Loan</b>	<b>426.10</b>	<b>426.10</b>	<b>416.83</b>	<b>399.23</b>	<b>381.63</b>
Average Net Loan	314.02	426.10	421.47	408.03	390.43
Rate of Interest on Loan (%)	9.1721	9.2058	9.1943	9.1832	9.1846
<b>Interest on Loan</b>	<b>28.80</b>	<b>39.23</b>	<b>38.75</b>	<b>37.47</b>	<b>35.86</b>