

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 261/TT/2015

Coram:

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

**Date of Hearing : 29.04.2016
Date of Order : 27.05.2016**

In the matter of:

Determination of transmission tariff for 2019 for **Asset-1**-765 kV Line Bay and 240 MVAR Switchable Line Reactor at Jabalpur Pooling Substation for 765 kV S/C Jabalpur-Bina ckt.-III (IPTC); **Asset-2** -765 kV Line Bay and 240 MVAR Line Reactor (Non-switchable) at Bina Sub-station for 765 kV S/C Jabalpur-Bina ckt.-III (IPTC); **Asset-3** - 765 kV Line Bay and 240 MVAR Line Reactor at Jabalpur PS and 765 kV Line Bay and 330 MVAR Switchable Line Reactor at Dharamjaygarh Sub-station for ckt.#3 of 765 kV D/C (ckt.#3 & #4) Dharamjaygarh - Jabalpur PS Transmission line (IPTC); **Asset-4** -765 kV Line Bay and 240 MVAR Line Reactor at Jabalpur PS and 765 kV Line Bay and 330 MVAR Switchable Line Reactor at Dharamjaygarh Sub-station for ckt.#4 of 765 kV D/C (ckt.#3 & #4) Dharamjaygarh - Jabalpur PS Transmission line (IPTC) under "Line Bays and Reactor Provisions at POWERGRID Sub-stations associated with System Strengthening common for Western Region and Northern Region" for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and 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 Management Company Ltd.
Shakti Bhawan, Rampur
Jabalpur - 482 008



2. Sterlite Technologies Limited C2, Mira Corporate Suits, 2nd Floor, Okhla Crossing, Mathura Road, Ishwarnagar, New Delhi-110066
3. Madhya Pradesh Audyogik Kendra
3/54, Press Complex, Agra-Bombay Road, Indore-452 008
4. Maharashtra State Electricity Distribution Co. Ltd.
Hongkong Bank Building, 3rd Floor
M.G. Road, Fort, Mumbai-400001.
5. Gujarat Urja Vikas Nigam Ltd.
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara - 390 007
6. Electricity Department
Govt. Of Goa, Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa - 403 001
7. Electricity Department
Administration Of Daman & Diu
Daman-396 210
8. Electricity Department
Administration of Dadra Nagar Haveli
U.T., Silvassa - 396 230
9. Chhattisgarh State Electricity Board
P.O.Sunder Nagar, Dangania, Raipur
Chhatisgaarh-492013

....Respondents

The following were present:-

For Petitioner: Shri S. S. Raju, PGCIL
 Shri M. M. Mondal, PGCIL
 Shri Pankaj Sharma, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri Avinash M Pavgi, PGCIL

For Respondent: None



ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for 765 kV Line Bay and 240 MVAR Switchable Line Reactor at Jabalpur Pooling Substation for 765 kV S/C Jabalpur-Bina ckt.-III (IPTC) (referred as “**Asset 1**”); 765 kV Line Bay and 240 MVAR Line Reactor (Non-switchable) at Bina Substation for 765 kV S/C Jabalpur-Bina ckt.-III (IPTC) (referred as “**Asset 2**”); 765 kV Line Bay and 240 MVAR Line Reactor at Jabalpur PS and 765 kV Line Bay and 330 MVAR Switchable Line Reactor at Dharamjaygarh Sub-station for ckt.#3 of 765 kV D/C (ckt.#3 & #4) Dharamjaygarh - Jabalpur PS Transmission line (IPTC) (referred as “**Asset 3**”); and 765 kV Line Bay and 240 MVAR Line Reactor at Jabalpur PS and 765 kV Line Bay and 330 MVAR Switchable Line Reactor at Dharamjaygarh SIS for ckt.#4 of 765 kV D/C (ckt.#3 & #4) Dharamjaygarh - Jabalpur PS Transmission line (IPTC) (referred as “**Asset 4**”) under "Line Bays and Reactor Provisions at POWERGRID Sub-stations associated with System Strengthening common for Western Region and Northern Region" under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from date of commercial operation 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 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 Memorandum C/CP/WR-246 dated 22.3.2012 with an estimated cost of ₹21378 lakh including IDC of ₹998 lakh, based on price level of 4th quarter-2011 price level. The total approved apportioned cost for the instant assets is ₹21377.58 lakh. The petitioner has submitted RCE and apportioned approved cost vide affidavit dated 31.5.2016. The RCE has been approved in 327th meeting of Board of directors of POWERGRID held on 2.4.2016 vide letter C/CP/RCE/line bays WR-NR dated 13.4.2016 with an estimated cost of ₹24341 lakh including IDC of ₹1510 lakh.

(b) The scope of work covered under “Line Bays and Reactor Provisions at Power Grid Sub-Stations associated with System Strengthening common for Western Region and Northern Region” is as follows:-

Transmission line

765kV Dharamjaygarh Sub Station [Extn]

765 kV

Line Bays : 2

330(3*110) MYAR Switchable line reactor : 2

765/400kV Jabalpur Pooling Sub Station [Extn]

765 kV

Line Bays : 2

240 (3*80) MYAR line reactor : 2

765 kV

Line Bays : 2

240 (3*80) MVAR Switchable line reactor : 2



765/400kV Bina Sub Station [Extn]765 kV

Line Bays	: 2
240 (3*80) MVAR line reactor	: 2
40 (3*80) MVAR line reactor	: 2

(c) The transmission charges claimed by the petitioner are as under:-

(₹ in lakh)

Asset 1					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	98.01	236.89	269.56	277.17	277.17
Interest on Loan	122.64	285.80	311.41	297.90	271.49
Return on Equity	109.84	270.13	313.99	325.05	325.05
Interest on Working Capital	12.17	27.89	30.56	31.01	30.74
O&M Expenses	82.60	174.44	180.24	186.22	192.40
Total	425.26	995.15	1105.76	1117.35	1096.85

(₹ in lakh)

Asset 2					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	49.50	149.36	170.80	175.12	175.12
Interest on Loan	64.12	184.17	197.35	186.21	168.95
Return on Equity	55.24	167.16	191.84	196.89	196.89
Interest on Working Capital	5.67	16.34	17.87	17.99	17.77
O&M Expenses	32.36	87.22	90.12	93.11	96.20
Total	206.89	604.25	667.98	669.32	654.93

(₹ in lakh)

Asset 3				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	148.59	314.21	341.21	343.66
Interest on Loan	191.99	386.40	391.26	360.98
Return on Equity	167.91	356.74	388.44	391.25
Interest on Working Capital	19.61	39.27	41.23	41.17
O&M Expenses	143.19	270.36	279.33	288.60
Total	671.29	1366.98	1441.47	1425.66



(₹ in lakh)

Asset 4				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	136.75	289.27	313.97	316.42
Interest on Loan	178.66	359.26	363.26	335.35
Return on Equity	154.62	328.27	357.02	359.82
Interest on Working Capital	18.69	37.42	39.24	39.23
O&M Expenses	142.46	270.36	279.33	288.6
Total	631.18	1284.58	1352.82	1339.42

(d) 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	25.32	26.17	27.04	27.93	28.86
Receivables	144.87	165.86	184.29	186.23	182.81
Total	184.26	206.56	226.35	229.68	227.70
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	12.17	27.89	30.56	31.01	30.74

(₹ 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	89.95	100.71	111.33	111.55	109.16
Total	109.65	121.06	132.06	133.28	131.60
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	5.67	16.34	17.87	17.99	17.27

(₹ in lakh)

Asset 3				
Particulars	2015-16	2016-17	2017-18	2018-19



	(pro-rata)			
O & M Expenses	21.81	22.53	23.28	24.05
Maintenance Spares	39.25	40.55	41.90	43.29
Receivables	204.45	227.83	240.91	237.61
Total	265.51	290.91	305.42	304.95
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	19.61	39.27	41.23	41.17

(₹ in lakh)

Asset 4				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	21.81	22.53	23.28	24.05
Maintenance Spares	39.25	40.55	41.90	43.29
Receivables	193.22	214.10	225.47	223.24
Total	254.27	277.18	290.65	190.58
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	18.69	37.42	39.24	39.23

4. The annual fixed charges for the instant asset were allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 17.12.2015 based on anticipated COD. The petitioner has submitted the details of IDC discharged, Auditor Certificates (dated 21.7.2015 & 19.10.2015) and tariff forms . The same has been considered for the purpose of computation of tariff.

5. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 29.4.2016.



Commercial Operation Date (“COD”)

6. 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

xxx”

7. The petitioner has sought approval of COD for Asset 1& 2 in accordance with Regulation 4 (3) (ii) of the Tariff Regulations 2014. The petitioner has submitted that due to non readiness of corresponding transmission line viz. 765 kV S/C Jabalpur- Bina and 765 kV D/C Dharamjaygarh-Jabalpur transmission line, the petitioner is 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 associated transmission line by Jabalpur Transmission



Company Ltd. (JTCL). The petitioner has submitted that the case qualifies for consideration of the Commission for approval of date of commercial operation prior to the element of coming into regular service.

8. The petitioner has submitted that Asset 1, 2, 3 and 4 was put under commercial operation on 5.10.2014, 13.11.2014, 14.9.2015 and 15.9.2015 respectively. The petitioner has also submitted the letter declaring COD and the RLDC trial run certificate dated in support of claim of commercial operation. The tariff is worked out for the instant assets from the COD to 31.3.2019.

9. The petitioner has submitted that to maintain the voltage profile at Jabalpur Pooling station & Bina Sub-station, Line reactors for 765 kV S/C Bina - Jabalpur ckt. #3 (IPTC) at Bina & Jabalpur have been charged as Bus reactor as per the in-principle approval from CEA for commissioning of 765 kV, 240 MVAR Line Reactors as Bus Reactor in Western Region.

10. We have considered petitioner's submission. It is observed that CEA has accorded in-principal approval to charge 765 kV, 240 MVAR Line Reactor associated with Jabalpur-Bina 765 kV S/C line-3 as Bus Reactor at Bina end vide letter dated 29.10.2014. Hence the same is being considered in the instant petition. As regards reactor in Asset 1, it is observed from the RLDC certificate dated 17.10.2014 that the same has been commissioned as Line Reactor along with the associated line bay equipments at 765 kV Jabalpur (PG). Thus, the same is being considered in the instant petition for tariff determination purpose.



Capital Cost

11. Regulation 9 (1) and (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: 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.”

12. In the auditor certificate and tariff forms the petitioner has claimed the following cost:-



(₹ in lakh)

Asset	Approved Apportioned cost	Revised Approved Apportioned cost as per RCE	Exp. up to COD	Additional Capital Expenditure					Estimated completion Cost
				2014-15	2015-16	2016-17	2017-18	Total	
Asset-1	4132.56	5869.28	3598.50	435.64	1115.16	376.00	-	1926.80	5525.30
Asset-2	3629.54	3555.27	2390.73	117.30	666.88	171.91	-	956.09	3346.82
Asset-3	7114.96	7444.40	4858.54	-	714.18	982.43	95.32	1791.93	6650.47
Asset-4	6500.52	7472.21	4515.61	-	623.54	881.83	95.32	1600.69	6116.30

13. The capital cost claimed by the petitioner is considered for the purpose of tariff subjected to prudence check as discussed in subsequent paragraph.

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 22.3.2012 and hence the schedule date of commercial operation was 21.3.2014 (COD as 1.4.2014). The Asset 1, 2, 3 and 4 were commissioned on 5.10.2014, 13.11.2014, 14.9.2015 and 15.9.2015 respectively. Hence, there is time over-run of 187 days, 226 days, 531 days and 532 days with regard to Asset 1, 2, 3 & 4 respectively. The petitioner has submitted following reasons for time overrun:-

15. The petitioner has submitted that the scope of the Petitioner in the instant project was to implement

- I. Bays and reactors for 765 kV S/C Jabalpur - Bina (3rd ckt. - being implemented by JTCL- an SPV of Sterlite Grid Ltd. under TBCB route)



II. Bays and reactors for 765 kV D/C Dhramjaigarh - Jabalpur developed by JTCL-an SPV of Sterlite Grid Ltd. under TBCB route.

16. M/s Sterlite Grid Ltd. was executing the above mentioned transmission lines in Western Region as an Independent Power Transmission Company (IPTC). For this purpose, a separate entity namely Jabalpur Transmission Company Ltd. (JTCL) has been created which is fully owned by M/s Sterlite Grid Ltd. The construction of the above transmission lines by JTCL is under progress. The bays and reactors already commissioned/being commissioned by POWERGRID were targeted according to the schedule of readiness of the corresponding transmission lines. Various meetings have been convened with M/s Sterlite Grid Ltd. by the petitioner and CEA for the monitoring and scheduling of commissioning of the assets. In one such meeting held on 01.09.2014, M/s Sterlite Grid Ltd. had requested POWERGRID for the readiness of the bays for 765 kV S/C Jabalpur — Rina T/L by December 2014. POWERGRID completed the corresponding bays by November 2014. Pursuant to this, efforts were made to commission the respective line bays prior/matching the Jabalpur-Bina 765 kV (3rd ckt -IPTC) S/C line; However, as the bays were nearing completion and the transmission line was not yet ready it was considered prudent to effectively utilize the equipment/Asset. Accordingly, the issue was addressed to CEA towards which their acceptance was received vide letter dated 29.10.2014.

17. The petitioner has further submitted that M/s Sterlite Grid Ltd. had requested POWERGRID for the readiness of the bays for 765 kV D/C Dharamjaygarh - Jabalpur Transmission line by 31st March 2015 against which



the corresponding bays were made ready for commissioning well in time but could not be commissioned due to in-ordinate delay in commissioning of the subject Transmission Line. The commissioning of these bays has been matched with the corresponding transmission Line and hence the delay. Thus, due to delay in completion of the associated Transmission Lines, the commissioning target of the corresponding line bays & reactors have been adjusted to match the commissioning of the transmission line, as brought out in meetings in various forums.

18. We have considered the submissions of the petitioner. The petitioner has submitted minutes of meeting of progress report by CEA on 24.9.2013 in which representatives of JTCL has informed about progress of the project. JTCL submitted that the project has been delayed due to delay in forest clearances. The petitioner has also submitted letter to M/s Sterlite Grid Ltd. dated 4.7.2014 with regard to readiness of transmission lines for the execution of 765 kV bays at Jabalpur & Bina. Further, the petitioner has also submitted record notes of the coordination meeting held with M/s Sterlite on 1.9.2014 with regard to expected COD of Transmission line, Sterlite has submitted that 765 kV S/C Jabalpur-Bina line and 765 kV D/C Jabalpur-Dharmjaygarh would be completed by 15.12.2015 and 31.3.2015. The petitioner has submitted Sterlite's letter to petitioner regarding status and commissioning intimation for the 765 kV D/C Jabalpur-Bina Transmission line of JTCL.

19. It is evident that the bays and reactors already commissioned/being commissioned by the petitioner was targeted according to the schedule of



readiness of the corresponding transmission lines of downstream system of JTCL. The petitioner has worked to match with the associated lines of JTCL. Hence, delay of 187 days, 226 days, 531 days and 532 days with regard to Asset 1, 2, 3 & 4 respectively has been condoned, as the delay reasons are not attributable to the petitioner.

IDC and IEDC

20. The petitioner has submitted the IDC and IEDC up to COD for the instant transmission assets as per Auditor's certificate as given hereunder:

(₹ in lakh)		
Asset	IEDC up to COD	IDC up to COD
Asset 1	49.43	67.12
Asset 2	26.91	134.07
Asset 3	55.00	466.66
Asset 4	51.02	439.84

21. The petitioner has submitted that entire IEDC has been discharged up to COD. The IDC discharged on cash basis is as below:

(₹ in lakh)			
Asset	IDC discharged upto COD	IDC discharged during 2014-15	IDC discharged during 2015-16
Asset 1	61.67	1.01	4.43
Asset 2	123.24	4.39	6.44
Asset 3	463.64	-	3.02
Asset 4	438.51	-	1.33

22. For determination of tariff for the 2014-19 tariff period for the instant transmission assets we have considered the capital cost as on COD after adjusting the IDC and IEDC discharged on cash basis.



23. Based on the above submissions of the petitioner, IDC is being capitalised and IDC discharged during 2016-17 has been added to the additional capital expenditure during 2016-17. Capital Cost after adjustment of IDC is as follows:-

(₹ in lakh)

Asset	Capital Cost claimed as on COD	AppORTIONED IDC (adjusted on cash basis)	Capital cost as on COD after adjustment of IDC
Asset 1	3598.50	5.44	3593.06
Asset 2	2390.73	10.83	2379.90
Asset 3	4858.54	3.02	4855.52
Asset 4	4515.61	1.33	4515.61

Cost over-run

24. The petitioner has submitted that total estimated completion cost of all the assets combined is ₹21638.89 lakh as per petition, as against appORTIONED approved cost ₹21377.58 lakh. There was cost overrun, however the petitioner vide affidavit dated 31.05.2016 with revised appORTIONED cost of ₹24341.16 lakh. Hence, there is no cost overrun with respect to the RCE. The petitioner has submitted reasons for cost overrun in Form-5. The main reasons for cost overrun was supply of shunt reactor was envisaged from on shore due to this custom duty component was extra added, which was not in FR and due to higher rates received in competitive bidding through L1 bidder.

25. We have considered the submissions of the petitioner. The revised appORTIONED approved cost of Asset-1, Asset-2, Asset-3 as per RCE is ₹5869.28 lakh, ₹3555.27 lakh, ₹7444.40 lakh, ₹7472.21 lakh and the completion cost as on



31.3.2019 is ₹5525.30 lakh, ₹3346.82 lakh, ₹6650.47 lakh, ₹6116.30 lakh respectively. Hence, there is no cost over-run in Asset-1, Asset-2, Asset-3 and Asset-4 with respect to their revised apportioned approved cost.

Initial Spares

26. The petitioner has claimed initial spares of ₹278.27 lakh and ₹184.82 lakh, ₹313.55 lakh and ₹304.36 lakh pertaining to Sub-station on the cut-off date of 31.3.2017 (for Asset 1 and 2) and 31.3.2018 (for Asset 3 and 4) as per Auditor's certificate.

27. Regulation 13 of the 2014 Tariff Regulations provide for ceiling norms for capitalization of initial spares. In case of brown-field Sub-station it is 6.00%, transmission line it is 1.00% of the capital cost. Accordingly, the initial spares are allowed as specified in the 2014 Tariff Regulations and it is as under:

(₹ in lakh)

Particulars (As per Auditor's Certificate)	Sub-station			
	Asset 1	Asset 2	Asset 3	Asset 4
Capital Cost upto cut-off date (excluding IDC, IEDC and land and cost of civil works)	4637.86	3080.84	5706.33	5252.96
Initial Spares Claimed	278.27	184.82	313.55	304.36
Norms(%)	6.00	6.00	6.00	6.00
Initial Spares as per Norms	278.27	184.82	344.22	315.87
Excess	0.00	0.00	0.00	0.00

28. The total initial spares claimed by the petitioner for instant assets are within the limits prescribed under Regulation 13 of the Tariff Regulation, 2014.



29. Hence, the capital cost as on COD, after adjusting the initial spares and IDC.IEDC on cash basis, considered for tariff determination is as below:

(in ₹ lakh)

Asset	Capital cost as on COD considered for tariff determination
Asset 1	3593.06
Asset 2	2379.90
Asset 3	4855.52
Asset 4	4515.61

Additional Capital Expenditure

30. The petitioner has submitted additional capitalization for the year 2014-15, 2015-16, 2016-17 and 2017-18 towards balance and retention payment under Regulation 14(1) (i) of 2014 Tariff Regulations.

31. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:-

“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 the 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;”

32. The cut-off date of the transmission asset is 31.3.2017 (for Asset 1 and 2) and 31.3.2018 (for Asset 3 and 4). Accordingly, additional capitalization for the subject asset is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations.



(in ₹ lakh)

Asset	Approved Apportioned cost	Revised Approved Apportioned cost as per RCE	Exp. up to COD	Additional Capital Expenditure				Estimated completion Cost
				2014-15	2015-16	2016-17	2017-18	
Asset-1	4132.56	5869.28	3593.06	436.65	1119.59	376.00	-	5525.30
Asset-2	3629.54	3555.27	2379.90	121.69	673.32	171.91	-	3346.82
Asset-3	7114.96	7444.40	4855.52	-	717.20	982.43	95.32	6650.47
Asset-4	6500.52	7472.21	4515.61	-	623.54	881.83	95.32	6116.30

Debt: Equity Ratio

33. 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:

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

34. The petitioner has considered debt:equity ratio as 70:30 as on COD and debt:equity ratio as 70:30 for additional capitalization during 2015-16, 2016-17, 2017-18 and 2018-19. Accordingly, we have considered the same for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset 1						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	2515.14	70.00	1352.57	70.00	3867.71	70.00
Equity	1077.92	30.00	579.67	30.00	1657.59	30.00
Total	3593.06	100.00	1932.24	100.00	5525.30	100.00



(₹ in lakh)

Asset 2						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	1665.93	70.00	676.84	70.00	2342.77	70.00
Equity	713.97	30.00	290.08	30.00	1004.05	30.00
Total	2379.90	100.00	966.92	100.00	3346.82	100.00

(₹ in lakh)

Asset 3						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	3398.86	70.00	1256.47	70.00	4655.33	70.00
Equity	1456.66	30.00	538.49	30.00	1995.14	30.00
Total	4855.52	100.00	1794.95	100.00	6650.47	100.00

(₹ in lakh)

Asset 4						
Particulars	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	3160.93	70.00	1120.48	70.00	4281.41	70.00
Equity	1354.68	30.00	480.21	30.00	1834.89	30.00
Total	4515.61	100.00	1600.69	100.00	6116.30	100.00

Interest on Loan ("IOL")

35. 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.”

36. 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:-

Asset 1

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	2515.14	2820.80	3604.51	3867.71	3867.71
Cumulative Repayment upto previous year	0.00	97.57	334.34	603.90	881.07



Net Loan-Opening	2515.14	2723.23	3270.17	3263.81	2986.64
Additions during the year	305.66	783.71	263.20	0.00	0.00
Repayment during the year	97.57	236.77	269.56	277.17	277.17
Net Loan-Closing	2723.23	3270.17	3263.81	2986.64	2709.47
Average Loan	2619.18	2996.70	3266.99	3125.22	2848.05
Rate of Interest (%)	9.5591	9.5337	9.5337	9.5337	9.5344
Interest	122.10	285.70	311.46	297.95	271.55

Asset 2

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	1665.93	1751.11	2222.44	2342.77	2342.77
Cumulative Repayment upto previous year	0.00	49.00	198.20	369.00	544.12
Net Loan-Opening	1665.93	1702.11	2024.24	1973.77	1798.65
Additions during the year	85.18	471.32	120.34	0.00	0.00
Repayment during the year	49.00	149.19	170.80	175.12	175.12
Net Loan-Closing	1702.11	2024.24	1973.77	1798.65	1623.53
Average Loan	1684.02	1863.17	1999.01	1886.21	1711.09
Rate of Interest (%)	9.8982	9.8758	9.8758	9.8758	9.8774
Interest	63.48	184.00	197.42	186.28	169.01

Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	3398.86	3900.90	4588.61	4655.33
Cumulative Repayment upto previous year	0.00	148.74	462.95	804.15
Net Loan-Opening	3398.86	3752.16	4125.66	3851.18
Additions during the year	502.04	687.70	66.72	0.00
Repayment during the year	148.74	314.21	341.21	343.66
Net Loan-Closing	3752.16	4125.66	3851.18	3507.52
Average Loan	3575.51	3938.91	3988.42	3679.35
Rate of Interest (%)	9.8095	9.8095	9.8095	9.8107
Interest	192.19	386.39	391.24	360.97



Asset 4

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	3160.93	3597.41	4214.69	4281.41
Cumulative Repayment upto previous year	0.00	136.94	426.20	740.17
Net Loan-Opening	3160.93	3460.47	3788.48	3541.24
Additions during the year	436.48	617.28	66.72	0.00
Repayment during the year	136.94	289.27	313.97	316.42
Net Loan-Closing	3460.47	3788.48	3541.24	3224.81
Average Loan	3310.70	3624.47	3664.86	3383.02
Rate of Interest (%)	9.9113	9.9113	9.9113	9.9122
Interest	178.90	359.23	363.24	335.33

Return on Equity (“ROE”)

37. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25(2) 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

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:

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.”

38. The petitioner has claimed ROE at the rate of 19.705% 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.

39. 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.

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



The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The ROE allowed for the instant transmission asset is given below:-

Asset 1

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	1077.92	1208.91	1544.79	1657.59	1657.59
Additional Capitalization	131.00	335.88	112.80	0.00	0.00
Closing Equity	1208.91	1544.79	1657.59	1657.59	1657.59
Average Equity	1143.42	1376.85	1601.19	1657.59	1657.59
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax 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	109.35	270.01	314.00	325.06	325.06

Asset 2:-

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	713.97	750.48	952.47	1004.05	1004.05
Additional Capitalization	36.51	202.00	51.57	0.00	0.00
Closing Equity	750.48	952.47	1004.05	1004.05	1004.05
Average Equity	732.22	851.48	978.26	1004.05	1004.05
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax 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)	54.68	166.98	191.84	196.90	196.90



Asset 3

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1456.66	1671.82	1966.55	1995.14
Additional Capitalization	215.16	294.73	28.60	0.00
Closing Equity	1671.82	1966.55	1995.14	1995.14
Average Equity	1564.24	1819.18	1980.84	1995.14
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
Tax rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	168.08	356.75	388.45	391.26

Asset 4

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1354.68	1541.75	1806.29	1834.89
Additional Capitalization	187.06	264.55	28.60	0.00
Closing Equity	1541.75	1806.29	1834.89	1834.89
Average Equity	1448.21	1674.02	1820.59	1834.89
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
Tax rate for the year (%)	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	154.84	328.28	357.03	359.83

Depreciation

41. 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.”

42. 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”

43. The weighted average useful life of the asset has been considered as 25 years in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

Asset 1

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	3593.06	4029.71	5149.30	5525.30	5525.30
Additional Capitalisation	436.65	1,119.59	376.00	0.00	0.00
Closing Gross Block	4029.71	5149.30	5525.30	5525.30	5525.30
Average Gross Block	3811.39	4589.51	5337.30	5525.30	5525.30



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Rate of Depreciation	5.25%	5.16%	5.05%	5.02%	5.02%
Depreciable Value	3430.25	4130.55	4803.57	4972.77	4972.77
Balance Useful life of the asset	25.00	24.00	23.00	22.00	21.00
Elapsed Life	-	1.00	2.00	3.00	4.00
Remaining Depreciable Value	3430.25	4032.98	4469.23	4368.87	4091.70
Depreciation	97.57	236.77	269.56	277.17	277.17
Cumulative depreciation	97.57	334.34	603.90	881.07	1158.24

Asset 2

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	2379.9	2501.59	3174.91	3346.82	3346.82
Additional Capitalisation	121.69	673.32	171.91	0	0
Closing Gross Block	2501.59	3174.91	3346.82	3346.82	3346.82
Average Gross Block	2440.75	2838.25	3260.87	3346.82	3346.82
Rate of Depreciation	5.27	5.26	5.24	5.23	5.23
Depreciable Value	2196.67	2554.43	2934.78	3012.14	3012.14
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	2196.67	2505.42	2736.58	2643.14	2468.02
Depreciation	49.00	149.19	170.8	175.12	175.12
Cumulative depreciation	49.00	198.20	369.00	544.12	719.24

Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	4855.52	5572.72	6555.15	6650.47
Additional Capitalisation	717.2	982.43	95.32	0
Closing Gross Block	5572.72	6555.15	6650.47	6650.47



Average Gross Block	5214.12	6063.94	6602.81	6650.47
Rate of Depreciation	5.21	5.18	5.17	5.17
Depreciable Value	4692.71	5457.54	5942.53	5985.42
Balance Useful life of the asset	25	24	23	22
Elapsed Life	-	1	2	3
Remaining Depreciable Value	4692.71	5308.8	5479.58	5181.27
Depreciation	148.74	314.21	341.21	343.66
Cumulative depreciation	148.74	462.95	804.15	1147.81

Asset 4

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	4515.61	5139.15	6020.98	6116.30
Additional Capitalisation	623.54	881.83	95.32	0.00
Closing Gross Block	5139.15	6020.98	6116.30	6116.30
Average Gross Block	4827.38	5580.07	6068.64	6116.30
Rate of Depreciation	5.20	5.18	5.17	5.17
Depreciable Value	4344.64	5022.06	5461.78	5504.67
Balance Useful life of the asset	25	24	23	22
Elapsed Life	-	1	2	3
Remaining Depreciable Value	4344.64	4885.12	5035.57	4764.50
Depreciation	136.94	289.27	313.97	316.42
Cumulative depreciation	136.94	426.20	740.17	1056.60

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

44. The petitioner has submitted that the wage revision of the employees of the petitioner company is due during 2014-19 and actual impact of wage hike



which will be effective from a future date has also not been factored in fixation of the normative O&M rate specified for the 2014-19 tariff period. The petitioner has also submitted that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

45. We have considered the submissions of the petitioner. We would like to clarify that any application filed by the petitioner for revision of O&M Expenses on account of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations. The O&M Expenses are allowed for the instant transmission assets as per the prevailing norms.

46. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specify the norms for O&M Expenses for the transmission system. The total allowable O&M Expenses for the instant assets are as follows:-

Asset 1

(in ₹ lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
765 kV Bays :					
No. of Bays	2	2	2	2	2
Norms (₹ lakh/Bay)	84.42	87.22	90.12	93.11	96.20
Total O&M Expenses	82.34	174.44	180.24	186.22	192.40

Asset 2

(in ₹ lakh)



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
765 kV Bays :					
No. of Bays	1	1	1	1	1
Norms (₹ lakh/Bay)	84.42	87.22	90.12	93.11	96.20
Total O&M Expenses	32.15	87.22	90.12	93.11	96.20

Asset 3

(in ₹ lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
400 kV GIS Bays :				
No. of Bays	3	3	3	3
Norms (₹ lakh/Bay)	84.42	87.22	90.12	93.11
Total O&M Expenses	143.38	270.36	279.33	288.60

Asset 4

(in ₹ lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
400 kV GIS Bays :				
No. of Bays	3	3	3	3
Norms (₹ lakh/Bay)	84.42	87.22	90.12	93.11
Total O&M Expenses	142.66	270.36	279.33	288.60

Interest on Working Capital (“IWC”)

47. 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).

48. The interest on working capital allowed is shown in the table below:-

Asset 1

Particulars	(₹ in lakh)				
	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	144.73	165.80	184.30	186.23	182.82
Total	184.12	206.50	226.35	229.68	227.71
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	24.86	27.88	30.56	31.01	30.74

Asset 2

Particulars	(₹ in lakh)				
	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	89.69	100.62	111.34	111.57	109.17
Total	109.39	120.97	132.37	133.29	131.61
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	5.62	16.33	17.87	17.99	17.77

Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	21.80	22.52	23.27	24.04
Maintenance Spares	39.25	40.55	41.90	43.29
Receivables	204.41	227.83	240.24	237.61
Total	265.45	290.90	305.41	304.94
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	19.64	39.27	41.23	41.17

Asset 4

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	21.80	22.52	23.27	24.04
Maintenance Spares	39.25	40.55	41.90	43.29
Receivables	193.21	214.09	225.47	223.24
Total	254.26	277.17	290.63	290.57
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	18.71	37.42	39.24	39.23



Annual Transmission Charges

49. 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:-

Asset 1

Particulars	(₹ in lakh)				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	3593.06	4029.71	5149.30	5525.30	5525.30
Additional Capitalisation	436.65	1119.59	376.00	0.00	0.00
Closing Gross Block	4029.71	5149.30	5525.30	5525.30	5525.30
Average Gross Block	3811.39	4589.51	5337.30	5525.30	5525.30
Rate of Depreciation (%)	5.25	5.16	5.05	5.02	5.02
Depreciable Value	3430.25	4130.55	4803.57	4972.77	4972.77
Balance useful life of the asset	25.00	24.00	23.00	22.00	21.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	3430.25	4032.98	4469.23	4368.87	4091.70
Depreciation during the year	97.57	236.77	269.56	277.17	277.17
Depreciation upto previous year	0.00	97.57	334.34	603.90	881.07
Cumulative depreciation (incl. of AAD)	97.57	334.34	603.90	881.07	1158.24
Interest on Loan					
Gross Normative Loan	2515.14	2820.80	3604.51	3867.71	3867.71
Cumulative Repayment upto Previous Year	0.00	97.57	334.34	603.90	881.07
Net Loan-Opening	2515.14	2723.23	3270.17	3263.81	2986.64
Additions	305.66	783.71	263.20	0.00	0.00
Repayment during the year	97.57	236.77	269.56	277.17	277.17
Net Loan-Closing	2723.23	3270.17	3263.81	2986.64	2709.47
Average Loan	2619.18	2996.70	3266.99	3125.22	2848.05



Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Weighted Average Rate of Interest on Loan (%)	9.5591	9.5337	9.5337	9.5337	9.5344
Interest on Loan	122.10	285.70	311.46	297.95	271.55
Return on Equity					
Opening Equity	1077.92	1208.91	1544.79	1657.59	1657.59
Additions	131.00	335.88	112.80	0.00	0.00
Closing Equity	1208.91	1544.79	1657.59	1657.59	1657.59
Average Equity	1143.42	1376.85	1601.19	1657.59	1657.59
Return on Equity (Base Rate)(%)	15.500	15.500	15.500	15.500%	15.500%
MAT rate for the respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	109.35	270.01	314.00	325.06	325.06
Interest on Working Capital					
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	144.73	165.80	184.30	186.23	182.82
Total	184.12	206.50	226.35	229.68	227.71
Rate of Interest	13.500	13.500	13.500	13.500	13.500
Interest on Working Capital	24.86	27.88	30.56	31.01	30.74
Annual Transmission Charges					
Depreciation	97.57	236.77	269.56	277.17	277.17
Interest on Loan	122.10	285.70	311.46	297.95	271.55
Return on Equity	109.35	270.01	314.00	325.06	325.06
Interest on Working Capital	12.12	27.88	30.56	31.01	30.74
O & M Expenses	82.34	174.44	180.24	186.22	192.40
Total	423.48	994.79	1105.82	1117.41	1096.92

Asset 2

(₹ in lakh)



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	2379.90	2501.59	3174.91	3346.82	3346.82
Additional Capitalisation	121.69	673.32	171.91	0.00	0.00
Closing Gross Block	2501.59	3174.91	3346.82	3346.82	3346.82
Average Gross Block	2440.75	2838.25	3260.87	3346.82	3346.82
Rate of Depreciation	5.27	5.26	5.24	5.23	5.23
Depreciable Value	2196.67	2554.43	2934.78	3012.14	3012.14
Balance Useful life of the asset	25	24	23	22	21
Elapsed Life	0	1	2	3	4
Remaining Depreciable Value	2196.67	2505.42	2736.58	2643.14	2468.02
Depreciation	49.00	149.19	170.80	175.12	175.12
Cumulative depreciation (incl. of AAD)	49.00	198.20	369.00	544.12	719.24
Interest on Loan					
Gross Normative Loan	1665.93	1751.11	2222.44	2342.77	2342.77
Cumulative Repayment upto Previous Year	0.00	49.00	198.20	369.00	544.12
Net Loan-Opening	1665.93	1702.11	2024.24	1973.77	1798.65
Additions	85.18	471.32	120.34	0.00	0.00
Repayment during the year	49.00	149.19	170.80	175.12	175.12
Net Loan-Closing	1702.11	2024.24	1973.77	1798.65	1623.53
Average Loan	1684.02	1863.17	1999.01	1886.21	1711.09
Weighted Average Rate of Interest on Loan	9.8982	9.8758	9.8758	9.8758	9.8774



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Interest	63.48	184.00	197.42	186.28	169.01
Return on Equity					
Opening Equity	713.97	750.48	952.47	1004.05	1004.05
Additions	36.51	202.00	51.57	0.00	0.00
Closing Equity	750.48	952.47	1004.05	1004.05	1004.05
Average Equity	732.22	851.48	978.26	1004.05	1004.05
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity	19.610	19.610	19.610	19.610	19.610
Return on Equity	54.68	166.98	191.84	196.90	196.90
Interest on Working Capital					
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	89.69	100.62	111.34	111.57	109.17
Total	109.39	120.97	132.37	133.29	131.61
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	5.62	16.33	17.87	17.99	17.77
Annual Transmission Charges					
Depreciation	49.00	149.19	170.80	175.12	175.12
Interest on Loan	63.48	184.00	197.42	186.28	169.01
Return on Equity	54.68	166.98	191.84	196.90	196.90
Interest on Working Capital	5.62	16.33	17.87	17.99	17.77
O & M Expenses	32.15	87.22	90.12	93.11	96.20
Total	204.94	603.72	668.05	669.40	655.00



Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	4855.52	5572.72	6555.15	6650.47
Additional Capitalisation	717.2	982.43	95.32	0
Closing Gross Block	5572.72	6555.15	6650.47	6650.47
Average Gross Block	5214.12	6063.94	6602.81	6650.47
Rate of Depreciation	5.21	5.18	5.17	5.17
Depreciable Value	4692.71	5457.54	5942.53	5985.42
Balance Useful life of the asset	25	24	23	22
Elapsed Life	0	0	2	3
Remaining Depreciable Value	4692.71	5308.8	5479.58	5181.27
Depreciation	148.74	314.21	341.21	343.66
Cumulative depreciation	148.74	462.95	804.15	1147.81
Interest on Loan				
Gross Normative Loan	3398.86	3900.9	4588.61	4655.33
Cumulative Repayment upto Previous Year	0	148.74	462.95	804.15
Net Loan-Opening	3398.86	3752.16	4125.66	3851.18
Additions	502.04	687.7	66.72	0
Repayment during the year	148.74	314.21	341.21	343.66
Net Loan-Closing	3752.16	4125.66	3851.18	3507.52
Average Loan	3575.51	3938.91	3988.42	3679.35
Weighted Average Rate of Interest on Loan	9.8095	9.8095	9.8095	9.8107
Interest	192.19	386.39	391.24	360.97
Return on Equity				
Opening Equity	1456.66	1671.82	1966.55	1995.14
Additions	215.16	294.73	28.6	0
Closing Equity	1671.82	1966.55	1995.14	1995.14
Average Equity	1564.24	1819.18	1980.84	1995.14
Return on Equity (Base Rate)	15.5	15.5	15.5	15.5
MAT rate for the	20.961	20.961	20.961	20.961



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
respective year				
Rate of Return on Equity	19.61	19.61	19.61	19.61
Return on Equity	168.08	356.75	388.45	391.26
Interest on Working Capital				
O & M expenses	21.8	22.52	23.27	24.04
Maintenance Spares	39.25	40.55	41.9	43.29
Receivables	204.41	227.83	240.24	237.61
Total	265.45	290.9	305.41	304.94
Rate of Interest (%)	13.5	13.5	13.5	13.5
Interest on working capital	19.64	39.27	41.23	41.17
Annual Transmission Charges				
Depreciation	148.74	314.21	341.21	343.66
Interest on Loan	192.19	386.39	391.24	360.97
Return on Equity	168.08	356.75	388.45	391.26
Interest on Working Capital	19.64	39.27	41.23	41.17
O & M Expenses	143.38	270.36	279.33	288.6
Total	672.02	1366.98	1441.46	1425.65

Asset 4

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	4515.61	5139.15	6020.98	6116.30
Additional Capitalisation	623.54	881.83	95.32	0.00
Closing Gross Block	5139.15	6020.98	6116.30	6116.30
Average Gross Block	4827.38	5580.07	6068.64	6116.30
Rate of Depreciation	5.20	5.18	5.17	5.17
Depreciable Value	4344.64	5022.06	5461.78	5504.67



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Balance Useful life of the asset	25	24	23	22
Elapsed Life	0	0	2	3
Remaining Depreciable Value	4344.64	4885.12	5035.57	4764.50
Depreciation	136.94	289.27	313.97	316.42
Cumulative depreciation	136.94	426.20	740.17	1056.60
Interest on Loan				
Gross Normative Loan	3160.93	3597.41	4214.69	4281.41
Cumulative Repayment upto Previous Year	0.00	136.94	426.20	740.17
Net Loan-Opening	3160.93	3460.47	3788.48	3541.24
Additions	436.48	617.28	66.72	0.00
Repayment during the year	136.94	289.27	313.97	316.42
Net Loan-Closing	3460.47	3788.48	3541.24	3224.81
Average Loan	3310.70	3624.47	3664.86	3383.02
Weighted Average Rate of Interest on Loan	9.9113	9.9113	9.9113	9.9122
Interest	178.90	359.23	363.24	335.33
Return on Equity				
Opening Equity	1354.68	1541.75	1806.29	1834.89
Additions	187.06	264.55	28.60	0.00
Closing Equity	1541.75	1806.29	1834.89	1834.89
Average Equity	1448.21	1674.02	1820.59	1834.89
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961
Rate of Return on Equity	19.610	19.610	19.610	19.610
Return on Equity	154.84	328.28	357.03	359.83
Interest on Working Capital				
O & M expenses	21.80	22.52	23.27	24.04
Maintenance Spares	39.25	40.55	41.90	43.29
Receivables	193.21	214.09	225.47	223.24



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Total	254.26	277.17	290.63	290.57
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	18.71	37.42	39.24	39.23
Annual Transmission Charges				
Depreciation	136.94	289.27	313.97	316.42
Interest on Loan	178.90	359.23	363.24	335.33
Return on Equity	154.84	328.28	357.03	359.83
Interest on Working Capital	18.71	37.42	39.24	39.23
O & M Expenses	142.66	270.36	279.33	288.60
Total	632.05	1284.56	1352.80	1339.41

Filing Fee and Publication Expenses

50. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

51. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2) (b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.



Service Tax

52. 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 of service tax is premature.

Sharing of Transmission Charges

53. The transmission charges for the instant assets shall be borne by Long Term Transmission Customer (LTTC) of the Transmission Service Agreement (TSA) executed by Jabalpur Transmission Company Ltd. (JTCL) under Tariff Based Competitive Bidding line, till the commissioning of the transmission lines. Once the associated system is commissioned, 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.

54. This order disposes of Petition No. 261/TT/2015.

(Dr. M. K. Iyer)
Member

(A.S. Bakshi)
Member



ANNEXURE-I**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19****(in ₹ lakh)**

Asset 1				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XLVI	9.30	1615.95	0.00	1615.95
SBI10000 (01.05.2014)	10.10	453.00	0.00	453.00
BOND XLVI	9.30	0.00	191.21	191.21
BOND XLVII	8.93	0.00	85.74	85.74
BOND XLVIII	8.20	0.00	28.00	28.00
SBI LOAN (OCTOBER 2013-DECEMBER 2013)- CHILD 1	10.10	450.00	0.00	450.00
Total		2518.95	304.95	2823.90

(in ₹ lakh)

Asset 2				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XLVI	9.30	371.95	0.00	371.95
SBI10000 (01.05.2014)	10.10	200.00	0.00	200.00
BOND XLVII	8.93	0.00	82.11	82.11
SBI Loan (Oct 2013- Dec 2013) - Child 1	10.10	1101.55	0.00	1101.55
Total		1673.50	82.11	1755.61

(in ₹ lakh)

Asset 3				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2015	Additions during the tariff period	Total
BOND XLVI	9.30	939.00	0.00	939.00
BOND XLVII	8.93	100.51	0.00	100.51
Proposed Loan 2015-16 (Bond L)	8.40	70.06	0.00	70.06



Asset 3				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2015	Additions during the tariff period	Total
SBI Loan (Oct 2013- Dec 2013) - Child 1	10.10	1958.18	0.00	1958.18
Proposed Loan (2015-2016) (10.10)	10.10	333.23	0.00	333.23
Total		3400.98	0.00	3400.98

Asset 4				
Particulars	Interest Rate (%)	Loan deployed as on 1.4.2015	Additions during the tariff period	Total
BOND XLVI	9.30	488.89	0.00	488.89
BOND XLVII	8.93	57.64	0.00	57.64
PROPOSED LOAN 2015-2016 10.10%	10.10	333.22	0.00	333.22
PROPOSED LOAN 2015-2016 (BOND L)	8.40	80.91	0.00	80.91
SBI Loan (Oct 2013- Dec 2013) - Child 1	10.10	2200.27	0.00	2200.27
Total		3160.93	0.00	3160.93

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

(₹in lakh)

Asset 1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2518.95	2823.90	2823.90	2823.90	2823.90
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00	0.00
Net Loans Opening	2518.95	2823.90	2823.90	2823.90	2823.90
Add: Draw(s) during the Year	304.95	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	0.00	0.00	7.15
Net Closing Loan	2823.90	2823.90	2823.90	2823.90	2816.75
Average Net Loan	2671.43	2823.90	2823.90	2823.90	2820.33



Asset 1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Interest on Loan (%)	9.56	9.53	9.53	9.53	9.53
Interest on Loan	255.39	269.12	269.12	269.12	268.78

(₹in lakh)

Asset 2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1673.50	1755.61	1755.61	1755.61	1755.61
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00	0.00
Net Loans Opening	1673.50	1755.61	1755.61	1755.61	1755.61
Add: Draw(s) during the Year	82.11	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	0.00	0.00	6.84
Net Closing Loan	1755.61	1755.61	1755.61	1755.61	1748.77
Average Net Loan	1714.56	1755.61	1755.61	1755.61	1752.19
Rate of Interest on Loan (%)	9.90	9.88	9.88	9.88	9.88
Interest on Loan	169.74	173.45	173.45	173.45	173.12

(₹in lakh)

Asset 3				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	3400.98	3400.98	3400.98	3400.98
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00
Net Loans Opening	3400.98	3400.98	3400.98	3400.98
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	0.00	8.38
Net Closing Loan	3400.98	3400.98	3400.98	3392.60
Average Net Loan	3400.98	3400.98	3400.98	3396.79
Rate of Interest on Loan (%)	9.81	9.81	9.81	9.81
Interest on Loan	333.64	333.64	333.64	333.23

(₹in lakh)

Asset 4				
Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	3160.93	3160.93	3160.93	3160.93
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00
Net Loans Opening	3160.93	3160.93	3160.93	3160.93
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00
Less: Repayments of Loan during	0.00	0.00	0.00	4.80



Asset 4				
Particulars	2015-16	2016-17	2017-18	2018-19
the year				
Net Closing Loan	3160.93	3160.93	3160.93	3156.13
Average Net Loan	3160.93	3160.93	3160.93	3158.53
Rate of Interest on Loan (%)	9.91	9.91	9.91	9.91
Interest on Loan	313.25	313.25	313.25	313.01

