

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 140/TT/2015

Coram:

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

Date of Hearing : 14.03.2016

Date of Order : 30.03.2016

In the matter of:

Determination of transmission tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for establishment of 765/400 kV, 2x1500 MVA GIS at Vadodara (Anticipated DOCO-01.07.2015) under Transmission System for IPP Generation Projects in MP & Chhattisgarh in Western Region and under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

1. Madhya Pradesh Power 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 A.M Pavgi, PGCIL
 Shri S.S. Raju, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri Jasbir Singh, PGCIL
 Shri Aryaman Saxena, PGCIL
 Shri M.M. Mondal, PGCIL
 Shri P.V Nath, PGCIL
 Smt. Archana Kumari, PGCIL
 Shri Amit Yadav, PGCIL

For Respondent: None.



ORDER

The petition has been preferred by Power Grid Corporation of India Limited (“the petitioner”), for determination of transmission tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD to 31.3.2019 in respect of establishment of 765/400 kV, 2x1500 MVA GIS at Vadodara under Transmission System for IPP Generation Projects in MP & Chhattisgarh in Western Region (herein after referred to as “the transmission asset”).

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 Transmission System associated with IPP Generation Projects in MP and Chhattisgarh in Western Region was discussed and agreed by the beneficiaries for implementation by the petitioner in the 29th SCM of Western Region Constituents held on 10.9.2009. The Investment Approval for the said system was accorded by Board of Directors of petitioner company vide Memorandum C/CP/IPP/MO-CH dated 2.9.2011 at an estimated cost of ₹136634 lakh including IDC of ₹6477 lakh (based on 2nd Quarter, 2011 price level).



(b) The Revised Cost Estimates (RCE) for the project has been approved and accorded by Board of Directors of petitioner company vide their letter C/CP/RCE MP-CH dated 9.12.2014 at an estimated cost of ₹160638 lakh including an IDC of ₹11371 lakh based on June, 2014 price level.

(c) The scope of work covered under for Transmission System for IPP generation projects in Madhya Pradesh and Chhattisgarh in Western Region is as follows:-

Transmission Line

- a. Vadodra-Pirana 400 kV D/C (Quad) line
- b. Indore- Vadodra 765 kV S/C line

Sub-station

- c. **Establishment of 765/400 kV, 2x1500 MVA GIS sub-staion at Vadodra**
- d. Extension of 765/400 kV Indore substaion
- e. Extension of 400 kV Pirana substaion

(d) As per the Investment Approval, the project was scheduled to be commissioned within 27 months from the date of Investment Approval. The date of Investment Approval is 2.9.2011 and accordingly the schedule date of completion of work is 1.12.2013.

(e) The tariff was approved for the year 2015-16 for inclusion in PoC charges as per Regulation 7(7) of the 2014 Tariff Regulations vide its order dated 2.7.2015.



(f) The petitioner initially claimed the transmission tariff for the instant transmission assets with an anticipated COD of 1.7.2015, based on estimated capital expenditure incurred up to the anticipated date of commercial operation and estimated additional capital expenditure projected to be incurred from anticipated date of commercial operation to 31.3.2019, vide affidavit dated 14.5.2014.

(g) The petitioner, vide affidavit dated 21.3.2016, has submitted the actual date of commercial operation of different elements of the instant transmission asset. Further, the petitioner has submitted that the Asset has been split into four parts and has been commissioned on the dates given in the table below. However, it is observed that the petitioner has not given any reason for splitting the assets, other than submitting that the assets have been commissioned on four different dates. The petitioner has not submitted any documents to show that the beneficiaries have been informed about splitting of the assets into four parts and to show that the issue was discussed in any of the RPC meetings. We are of the view that it is the responsibility of the petitioner to intimate the beneficiaries about any change in execution of the assets. It appears that the petitioner is executing the project on its own terms without informing the beneficiaries. We do not appreciate the conduct of the petitioner. The petitioner is directed to inform all the beneficiaries and the Commission about the changes in execution of assets in advance and discuss the same in suitable forum in future.



Assets as commissioned	Actual COD status as on date
765/400 kV ICT 1 at Vadodara GIS, 765 kV bay at Vadodara GIS along with 240 MVAR Line Reactor for Vadodara - Indore Line, 400 kV GIS Bay at Vadodara for Vadodara - Pirana ckt 2	8.6.2015
765/400 kV ICT 2 at Vadodara GIS	22.6.2015
400 kV GIS Bay at Vadodara for Vadodara - Pirana ckt 2	29.6.2015
240 MVAR Bus Reactor with spare unit	1.10.2015

(h) The petitioner, vide affidavit dated 21.3.2016, has requested to determine the transmission tariff of the commissioned assets as shown in the above table. The petitioner has submitted the revised Auditor Certificates as per revised date of commercial operation and also revised tariff forms pertaining to these elements. Accordingly, the assets covered in the instant petition are as below:

Extension of 765/400 kV, 2x1500 MVA GIS at Vadodara:

Asset- I(A): 765/400 kV ICT 1 at Vadodara GIS, 765 kV bay at Vadodara GIS along with 240 MVAR Line Reactor for Vadodara - Indore Line, 400 kV GIS Bay at Vadodara for Vadodara - Pirana ckt 2

Asset- I(B): 765/400 kV ICT 2 at Vadodara GIS

Asset- I(C): 400 kV GIS Bay at Vadodara for Vadodara - Pirana ckt 1

Asset- I(D): 240 MVAR Bus Reactor with spare unit



(i) The petitioner has submitted, vide affidavit dated 21.3.2016, the inspection certificate, self declaration certificate and the RLDC certificate in respect of commissioning of Asset- I(A), I(B), I(C) & I(D).

(j) The capital cost claimed by the petitioner along with the additional capital expenditure during 2014-19 tariff period, in respect of the instant assets is as below :

(₹ in lakh)

Asset	Apportioned approved cost as per RCE	Exp. Up to COD	Exp. for 2015-16	Exp. for 2016-17	Exp. for 2017-18	Total Est. Exp.
Asset I(A)	34564.27	20714.92	4106.28	4805.37	1093.22	30719.79
Asset I(B)	13220.62	7488.46	912.30	2465.40	1079.52	11945.68
Asset I(C)	1997.85	1166.99	184.20	271.86	135.90	1758.95
Asset I(D)	5521.14	4405.26	536.35	388.76	131.68	5462.05

(k) 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/objections have been received from the public in response to the notice published in newspaper. No submission has been made by the respondents. The hearing in this matter was held on 14.3.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to determine the tariff in accordance with the Tariff Regulations, 2014.

(l) The petitioner has claimed the transmission charges as under:-



Asset I (A):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	815.49	1227.81	1356.94	1383.63
Interest on Loan	1130.09	1600.02	1670.82	1583.46
Return on Equity	1079.51	1609.34	1783.69	1816.00
Interest on Working Capital	83.07	119.20	128.39	128.32
O & M Expenses	243.39	308.98	319.24	329.82
Total	3351.55	4865.35	5259.08	5241.23

Asset I (B):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	316.83	506.87	602.23	630.73
Interest on Loan	378.61	571.00	636.90	614.75
Return on Equity	354.72	567.49	674.26	706.17
Interest on Working Capital	30.57	46.41	52.86	54.03
O & M Expenses	115.88	154.49	159.62	164.91
Total	1196.61	1846.26	2125.87	2170.59

Asset I (C):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	49.71	78.52	89.28	92.87
Interest on Loan	57.45	85.43	90.75	86.96
Return on Equity	55.65	87.91	99.96	103.98
Interest on Working Capital	6.35	9.35	10.12	10.33
O & M Expenses	47.07	64.37	66.51	68.71
Total	216.23	325.58	356.62	362.85

Asset I (D):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	119.70	271.18	284.92	288.40
Interest on Loan	141.66	303.87	295.15	273.45
Return on Equity	134.02	303.61	319.00	322.89
Interest on Working Capital	11.51	25.20	25.84	25.68
O & M Expenses	43.61	90.12	93.11	96.20
Total	450.50	993.98	1018.02	1006.62



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

Asset I (A):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	24.92	25.75	26.60	27.49
Maintenance Spares	44.86	46.35	47.89	49.47
Receivables	686.32	810.89	876.51	873.54
Total	756.10	882.99	951.00	950.50
Rate of Interest (%)	13.50	13.50	13.50	13.50
Total	83.07	119.20	128.39	128.32

Asset I (B):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	12.46	12.87	13.30	13.74
Maintenance Spares	22.43	23.17	23.94	24.74
Receivables	257.34	307.71	354.31	361.77
Total	292.23	343.75	391.55	400.25
Rate of Interest (%)	13.50	13.50	13.50	13.50
Total	30.57	46.41	52.86	54.03

Asset I (C):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	5.19	5.36	5.54	5.73
Maintenance Spares	9.35	9.66	9.98	10.31
Receivables	47.70	54.26	59.44	60.48
Total	62.24	69.28	74.96	76.52
Rate of Interest (%)	13.50	13.50	13.50	13.50
Total	6.35	9.35	10.12	10.33

Asset I (D):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	7.27	7.51	7.76	8.02



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	150.17	165.66	169.67	167.77
Total	170.52	186.69	191.40	190.22
Rate of Interest (%)	13.50	13.50	13.50	13.50
Total	11.51	25.20	25.84	25.68

Date of Commercial Operation (“COD”)

4. The petitioner has claimed the date of the commercial operation of Asset-I (A), I (B), I (C) & I (D) as 8.6.2015, 22.6.2015, 29.6.2015 and 1.10.2015 respectively. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

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

xxx

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

xxx
xxx”

5. The petitioner has submitted RLDC certificate, issued by the WRLDC, POSOCO vide letters dated 1.7.2015, 13.8.2015 and 13.10.2015 in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation. Accordingly, the commercial operation date of the transmission asset has been considered as 8.6.2015, 22.6.2015, 29.6.2015 and 1.10.2015 for Asset-I (A), I (B), I (C) & I (D) respectively and the tariff is worked out from respective CODs to 31.3.2019.



Capital Cost

6. The petitioner, vide Auditor`s Certificate dated 17.3.2016 and the affidavit dated 21.3.2016, has claimed the capital cost as on COD as ₹20052.62 lakh, ₹7151.65 lakh, ₹1140.78 lakh, and ₹4126.68 lakh, excluding the IDC discharged on cash basis, respectively for Asset-I (A), I (B), I (C) & I (D) respectively.

7. 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.”

8. We have considered the submissions of the petitioner with regard to the capital cost. The capital cost of the transmission assets admitted as on COD have been worked out in the subsequent paragraphs taking into consideration the time overrun, IEDC, IDC and initial spares allowed for the instant assets.

Time Over-run

9. As per the investment approval, the transmission assets were scheduled to be commissioned within 27 months of the sanction date i.e. on 2.9.2011. Hence the scheduled commissioning date works out to 1.12.2013 (SCOD). However, the assets were commissioned as below:

Asset as Commissioned	Actual COD	Time overrun (months)
Asset I (A)	08.06.2015	18
Asset I (B)	22.06.2015	18
Asset I (C)	29.06.2015	18
Asset I (D)	01.10.2015	22

10. The petitioner has submitted the reasons for delay in commissioning of the transmission assets. The petitioner has submitted that the time overrun is mainly on account of delay in land acquisition, which resulted in consequent delay of supply of material, civil works and erection. The petitioner has further attributed the delay to rain and flooding in Vadodara in September 2014, which severely hampered the construction activities.



a) Delay in acquisition of land – The petitioner has submitted that the requisition for land was made to the Collector in June 2009. Section 4 Notification was subsequently issued in daily news-paper Vadodara edition. In July and September 2011, objections were raised by the objectors. Thereafter, Section 6 notification was issued in December 2011. In January 2012, Notice under section 9(3)(4) of the Land Acquisition Act (LAQ) was issued. Due to delay in normal land acquisition, the petitioner wrote communication to the Land Acquisition Officer (LAO) to arrange meeting for awarding consent under section 11(2) of the Act. In September 2012, consent agreements and undertaking were submitted to the office of LAO. Further, a Court case was filed in Hon'ble Gujarat High Court by the affected farmers (SCA No.: 2674 of 2013), in April 2013, seeking to pass consent award related to acquisition of land under section 11 (2) of the LAQ Act. The Hon'ble Gujarat High Court issued order in favour of the farmers. Subsequently, the land possession was obtained in August 2013. Due to the initial delay of several months, the schedule of construction activities had to be shifted accordingly.

b) Critical weather conditions: The petitioner has submitted that there was severe rain and flooding in Vadodara in September 2014, which hampered construction activities.

11. Regulation 12 of the 2014 Tariff Regulations, provides as follows:-



12. Controllable and Uncontrollable factors: The following shall be considered as controllable and uncontrollable factors leading to cost escalation impacting Contract Prices, IDC and IEDC of the project :

- (1) The "controllable factors" shall include but shall not be limited to the following:
 - (a) Variations in capital expenditure on account of time and/or cost over-runs on account of land acquisition issues;
 - (b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and
 - (c) Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.
- (2) The "uncontrollable factors" shall include but shall not be limited to the following:
 - (i) Force Majeure events; and
 - (ii) Change in law.

Provided that no additional impact of time overrun or cost over-run shall be allowed on account of non-commissioning of the generating station or associated transmission system by SCOD, as the same should be recovered through Implementation Agreement between the generating company and the transmission licensee:

Provided further that if the generating station is not commissioned on the SCOD of the associated transmission system, the generating company shall bear the IDC [and IEDC] or transmission charges if the transmission system is declared under commercial operation by the Commission in accordance with second proviso of Clause 3 of Regulation 4 of these regulations till the generating station is commissioned:

Provided also that if the transmission system is not commissioned on SCOD of the generating station, the transmission licensee shall arrange the evacuation from the generating station at its own arrangement and cost till the associated transmission system is commissioned."

12. We have considered the submissions of the petitioner and the documentary evidence submitted to justify the time over-run. The investment approval for the transmission assets was granted on 2.9.2011. The petitioner submitted the requisition letter for land acquisition to the Collector & DM,



Vadodra, on 22.6.2009. Subsequently, the application for acquisition of land in village Waghodia was sent to the District Collector vide letter dated 20.12.2010. The petitioner has submitted detailed chronology of events leading to the concerned land acquisition, as below:

Date	Event
22.6.2009	Requisition for land to collector
20.12.2010	Application for land acquisition in the village Waghodia to the Collector
30.6.2011	Notification in newspaper
27.7.2012	Petitioner written communication to LAQ
21.9.2012	Consent agreements and undertaking were submitted to the office at LAQ
26.2.2013	Legal Notice by the petitioner to the LAQ officer
4.3.2013	Court case filed by the farmers in Gujarat High Court
5.2.2013	High court gave order in favour of farmers
13.8.2013	Land possession obtained

13. It is observed that the petitioner approached the concerned land authorities for acquisition of land on 22.6.2009 and the final land acquisition was completed in August 2013 and the assets were progressively commissioned June 2015 onwards. Having perused all the documents submitted by the petitioner, we are convinced that the delay in land acquisition was not at the petitioner's end and the petitioner had diligently pursued for the resolution of the same.

14. In respect of the flood situation during September 2014, the petitioner has submitted documentary evidences from the newspapers depicting the severe flood in and around Vadodra district. The flood situation in Vadodra district was



an unforeseeable event and the petitioner cannot be held accountable for the consequent delay.

15. Thus, in the instant case, the land acquisition and flood situation would come under the purview of Regulation 12(2)(i) of the 2014 Tariff Regulations. In view of the above facts and observations, we are of the view that the resulting time over-run is not attributable to the petitioner. Therefore, the time over-run of 18-22 months in the instant assets is condoned.

IDC and IEDC

16. The petitioner has submitted, vide affidavit dated 21.3.2016, the details of IDC and IEDC accrued and discharged up to COD for the instant assets and the same is certified by the Auditor's Certificate dated 17.3.2016. The details of IDC discharged, as submitted by the petitioner are as below:

Details	(₹ in lakh)			
	Asset I (A)	Asset I (B)	Asset I (C)	Asset I (D)
Total IDC as per Certificate	1376.89	543.72	93.89	309.03
IDC discharged upto COD	714.59	206.91	67.68	30.45
Accrued IDC upto COD (to be discharged during 2015-16)	662.30	269.53	26.21	278.58
Accrued IDC upto COD (to be discharged during 2016-17)	-	67.28	-	-



17. The petitioner has adjusted the IDC discharged on cash basis in the claim made in respect of capital cost on COD. We have considered the submission of the petitioner and the capital cost of ₹20052.62 lakh, ₹7151.65 lakh, ₹1140.78 lakh and ₹4126.68 lakh as on COD, for Asset- I(A), I(B), I(C) & I(D) has been considered as shown below:

Asset- I(A)

(₹ in lakh)

Particulars	Capital cost claimed as on COD	Apportioned IDC/IEDC (adjusted on cash basis)	Capital cost as on COD
Land - Freehold	3243.94	0.00	3243.94
Land - Leasehold	0	0.00	0.00
Buliding Civil Works & Colony	529.41	20.07	509.34
Transmission Line	0	0.00	0.00
Sub Station	16847.99	638.69	16209.30
PLCC	93.58	3.55	90.03
Total	20714.92	662.30	20052.62

Asset- I(B)

(₹ in lakh)

Particulars	Capital cost claimed as on COD	Apportioned IDC/IEDC (adjusted on cash basis)	Capital cost as on COD
Land - Freehold	0	0.00	0.00
Land - Leasehold	0	0.00	0.00
Buliding Civil Works & Colony	0	0.00	0.00
Transmission Line	0	0.00	0.00
Sub Station	7488.46	336.81	7151.65
PLCC	0	0.00	0.00
Total	7488.46	336.81	7151.65



Asset- I(C)

(₹ in lakh)

Particulars	Capital cost claimed as on COD	AppORTIONED IDC/IEDC (adjusted on cash basis)	Capital cost as on COD
Land - Freehold	0		0.00
Land - Leasehold	0	0.00	0.00
Buliding Civil Works & Colony	0	0.00	0.00
Transmission Line	0	0.00	0.00
Sub Station	1166.99	26.21	1140.78
PLCC	0	0.00	0.00
Total	1166.99	26.21	1140.78

Asset- I(D)

(₹ in lakh)

Particulars	Capital cost claimed as on COD	AppORTIONED IDC/IEDC (adjusted on cash basis)	Capital cost as on COD
Land - Freehold	0	0.00	0.00
Land - Leasehold	0	0.00	0.00
Buliding Civil Works & Colony	0	0.00	0.00
Transmission Line	0	0.00	0.00
Sub Station	4405.26	278.58	4126.68
PLCC	0	0.00	0.00
Total	4405.26	278.58	4126.68

18. The IDC discharged after COD is accordingly included in the corresponding additional capital expenditure.

Initial Spares

19. The petitioner has claimed initial spares of ₹1132.00 lakh, ₹563.00 lakh ₹82.11 lakh, and ₹253.67 lakh for Asset- I(A), I(B), I(C) and I(D) respectively as submitted vide Auditor`s Certificate dated 17.3.2016. The details of initial spares claimed by the petitioner and allowed as per 2014 Tariff Regulations are as follows:-



(₹ in lakh)

Particulars	Asset I(A)	Asset I(B)	Asset I(C)	Asset I(D)
Capital cost(plant and machinery cost excluding IDC and IEDC, land and civil works cost) up to cut-off date	22644.64	11265.41	1642.26	5073.49
Initial spares claimed	1132.00	563.00	82.11	253.67
Norms (%)	6%	6%	6%	6.00%
Initial Spares worked out as per norms	1373.15	683.13	99.58	307.65
Excess Initial Spares	0.00	0.00	0.00	0.00

20. The initial spares claimed are within the ceiling norms as per Regulation 13 (d) of 2014 Tariff Regulations. The capital cost as on COD considered for the purpose of computation of tariff is as follows:-

(₹ in lakh)

Particulars	Asset I(A)	Asset I(B)	Asset I(C)	Asset I(D)
Capital cost as on COD (Cash basis)	20052.62	7151.65	1140.78	4126.68
IDC and IEDC disallowed	0.00	0.00	0.00	0.00
Excess initial spares	0.00	0.00	0.00	0.00
Capital cost as on COD considered for tariff determination	20052.62	7151.65	1140.78	4126.68

Additional Capital Expenditure

21. 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 recognised 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 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and

(v) Change in Law or compliance of any existing law.”

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

22. 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;”

23. The cut-off date of the transmission asset is 31.3.2018. The petitioner has proposed additional capitalization of ₹10004.87 lakh, ₹4457.22 lakh, ₹591.96 lakh, and ₹1056.79 lakh for 2015-19 period in respect of Asset- I(A), I(B), I(C) & I(D), towards balance and retention payment under Regulation 14(1) of the 2014 Tariff Regulations.

24. Further, the petitioner has adjusted IDC discharged during 2015-16 and 2016-17 as additional capital expenditure during the respective years.



25. The additional capitalization claimed is within the cut-off date and thus is allowed under Regulation 14(1) (i) of 2014 Tariff Regulations as mentioned below subject to true up on actual basis:-

(₹ in lakh)

Asset	Approved apportioned cost (RCE)	Capital cost as on COD	Additional Capital Expenditure during 2014-19 period				Estimated completion cost on 31.3.2019
			2015-16	2016-17	2017-18	Total	
Asset I(A)	34564.27	20052.62* (20714.92-662.30)	4768.58	4805.37	1093.22	10667.17	30719.79
Asset I(B)	13220.62	7151.65* (7488.46-269.53-67.28)	1181.83	2532.68	1079.52	4794.03	11945.68
Asset I(C)	1997.85	1140.78* (1166.99-26.21)	210.41	271.86	135.90	618.17	1758.95
Asset I(D)	5521.14	4126.88* (4405.26-278.58)	814.93	388.76	131.68	1335.37	5462.05

* IDC of ₹662.30 lakh, ₹336.81 lakh, ₹26.21 lakh, and ₹278.58 lakh respectively for Asset- I(A), I(B), I(C) & I(D) not discharged as on COD, hence reduced from the respective capital cost and allowed as additional capital expenditure during the applicable period.

Debt:Equity Ratio

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

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

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- 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.”



27. The petitioner has considered the debt: equity ratio of 70.00:30.00, which is in line with the 2014 Tariff Regulations, hence same is considered for calculation of tariff. We have considered debt:equity ratio of 70.00:30.00 for additional capitalization during 2015-16 and 2016-17. The details of the debt:equity as on the date of COD and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period are as follows:-

(₹ in lakh)

Asset	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Asset-I(A)						
Debt	14036.83	70.00	7467.02	70.00	21503.85	70.00
Equity	6015.78	30.00	3200.15	30.00	9215.94	30.00
Total	20052.62	100.00	10667.17	100.00	30719.79	100.00
Asset-I(B)						
Debt	5006.16	70.00	3355.82	70.00	8361.98	70.00
Equity	2145.50	30.00	1438.21	30.00	3583.70	30.00
Total	7151.65	100.00	4794.03	100.00	11945.68	100.00
Asset-I(C)						
Debt	798.55	70.00	432.72	70.00	1231.27	70.00
Equity	342.23	30.00	185.45	30.00	527.69	30.00
Total	1140.78	100.00	618.17	100.00	1758.95	100.00
Asset-I(D)						
Debt	2888.67	70.00	934.76	70.00	3823.44	70.00
Equity	1238.00	30.00	400.61	30.00	1638.62	30.00
Total	4126.68	100.00	1335.37	100.00	5462.05	100.00



Interest on Loan (“IOL”)

28. 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.”

29. We have considered the weighted average rate of IOL on the basis of rate prevailing as on COD. 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- I(A):

(₹ in lakh)

Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	14036.83	17374.84	20738.60	21503.85
Cumulative Repayment upto Previous Year	0.00	815.81	2043.62	3400.55
Net Loan-Opening	14036.83	16559.03	18694.98	18103.30



Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Additions	3338.01	3363.76	765.25	0.00
Repayment during the year	815.81	1227.81	1356.94	1383.62
Net Loan-Closing	16559.03	18694.98	18103.30	16719.68
Average Loan	15297.93	17627.01	18399.14	17411.49
Weighted Average Rate of Interest on Loan (%)	9.0763	9.0769	9.0808	9.0942
Interest on Loan	1130.52	1599.98	1670.79	1583.43

Asset- I(B):

(₹ in lakh)

Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	5006.16	5833.44	7606.31	8361.98
Cumulative Repayment upto Previous Year	0.00	317.22	824.09	1426.32
Net Loan-Opening	5006.16	5516.22	6782.22	6935.66
Additions	827.28	1772.87	755.66	0.00
Repayment during the year	317.22	506.87	602.23	630.73
Net Loan-Closing	5516.22	6782.22	6935.66	6304.92
Average Loan	5261.19	6149.22	6858.94	6620.29
Weighted Average Rate of Interest on Loan (%)	9.2851	9.2851	9.2851	9.2853
Interest on Loan	379.06	570.96	636.86	614.72

Asset- I(C):

(₹ in lakh)

Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	798.55	945.83	1136.14	1231.27
Cumulative Repayment upto Previous Year	0.00	49.79	128.31	217.60
Net Loan-Opening	798.55	896.04	1007.82	1013.67
Additions	147.29	190.30	95.13	0.00
Repayment during the year	49.79	78.52	89.28	92.87
Net Loan-Closing	896.04	1007.82	1013.67	920.80
Average Loan	847.29	951.93	1010.75	967.23
Weighted Average Rate of Interest on Loan (%)	8.9731	8.9738	8.9780	8.9902
Interest on Loan	57.54	85.42	90.75	86.96



Asset- I(D):

(₹ in lakh)

Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	2888.67	3459.13	3731.26	3823.44
Cumulative Repayment upto Previous Year	0.00	119.70	390.88	675.80
Net Loan-Opening	2888.67	3339.43	3340.38	3147.63
Additions	570.45	272.13	92.18	0.00
Repayment during the year	119.70	271.18	284.92	288.40
Net Loan-Closing	3339.43	3340.38	3147.63	2859.24
Average Loan	3114.05	3339.90	3244.01	3003.44
Weighted Average Rate of Interest on Loan (%)	9.0982	9.0982	9.0982	9.1044
Interest on Loan	141.66	303.87	295.15	273.45

Return on Equity("ROE")

30. Clause (1) and (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."

31. The petitioner has claimed ROE at the rate of 19.61% 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.

32. 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-I (A):

(₹ in lakh)

Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	6015.78	7446.36	8887.97	9215.94
Additions	1430.58	1441.61	327.97	0.00
Closing Equity	7446.36	8887.97	9215.94	9215.94
Average Equity	6731.07	8167.17	9051.95	9215.94
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	1079.96	1609.38	1783.73	1816.04

Asset-I (B):

(₹ in lakh)

Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	2145.50	2500.04	3259.85	3583.70
Additions	354.55	759.80	323.86	0.00
Closing Equity	2500.04	3259.85	3583.70	3583.70
Average Equity	2322.77	2879.95	3421.78	3583.70
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	355.16	567.51	674.28	706.19

Asset-I (C):

(₹ in lakh)

Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	342.23	405.36	486.92	527.69
Additions	63.12	81.56	40.77	0.00
Closing Equity	405.36	486.92	527.69	527.69
Average Equity	373.80	446.14	507.30	527.69
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	55.75	87.91	99.97	103.98



Asset-I (D):

(₹ in lakh)

Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1238.00	1482.48	1599.11	1638.62
Additions	244.48	116.63	39.50	0.00
Closing Equity	1482.48	1599.11	1638.62	1638.62
Average Equity	1360.24	1540.80	1618.86	1638.62
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	134.02	303.62	319.00	322.90

Depreciation

33. 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."

34. 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”

35. 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 – I(A):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	20052.62	24821.20	29626.57	30719.79
Additional Capitalisation	4768.58	4805.37	1093.22	0.00
Closing Gross Block	24821.20	29626.57	30719.79	30719.79
Average Gross Block	22436.91	27223.89	30173.18	30719.79
Rate of Depreciation (%)	4.47	4.51	4.50	4.50
Depreciable Value	17273.67	21466.72	24005.86	24497.81
Balance useful life of the asset	25	24	23	22
Elapsed life	0	1	2	3
Remaining Depreciable Value	17273.67	20766.14	22192.70	21327.71
Depreciation during the year	815.81	1227.81	1356.94	1383.62
Cumulative depreciation	815.81	2043.62	3400.55	4784.17

Asset – I(B):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	7151.65	8333.48	10866.16	11945.68
Additional Capitalisation	1181.83	2532.68	1079.52	0.00
Closing Gross Block	8333.48	10866.16	11945.68	11945.68
Average Gross Block	7742.57	9599.82	11405.92	11945.68
Rate of Depreciation (%)	5.28	5.28	5.28	5.28



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciable Value	6968.31	8639.84	10265.33	10751.11
Balance useful life of the asset	25	24	23	22
Elapsed life	0	1	2	3
Remaining Depreciable Value	6968.31	8322.62	9441.24	9324.79
Depreciation during the year	317.22	506.87	602.23	630.73
Cumulative depreciation	317.22	824.09	1426.32	2057.05

Asset – I(C):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	1140.78	1351.19	1623.05	1758.95
Additional Capitalisation	210.41	271.86	135.90	0.00
Closing Gross Block	1351.19	1623.05	1758.95	1758.95
Average Gross Block	1245.99	1487.12	1691.00	1758.95
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	1121.39	1338.41	1521.90	1583.06
Balance useful life of the asset	25	24	23	22
Elapsed life	0	1	2	3
Remaining Depreciable Value	1121.39	1288.62	1393.59	1365.46
Depreciation during the year	49.79	78.52	89.28	92.87
Cumulative depreciation	49.79	128.31	217.60	310.47

Asset – I(D):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	4126.68	4941.61	5330.37	5462.05
Additional Capitalisation	814.93	388.76	131.68	0.00
Closing Gross Block	4941.61	5330.37	5462.05	5462.05
Average Gross Block	4534.14	5135.99	5396.21	5462.05
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	4080.73	4622.39	4856.59	4915.85
Balance useful life of the asset	25	24	23	22
Elapsed life	0	1	2	3
Remaining Depreciable Value	4080.73	4502.69	4465.71	4240.04
Depreciation during the year	119.70	271.18	284.92	288.40
Cumulative depreciation	119.70	390.88	675.80	964.20



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

36. The instant petition covers a total of 4 bays each at 400 kV and 765 kV level. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses:-

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Norm (₹ lakh/bay)				
765 kV	87.22	90.12	93.11	96.20
400 kV	62.30	64.37	66.51	68.71

37. 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.

38. 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.



39. 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			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Asset-I (A)				
765 kV bay (2 No.)	174.44	180.24	186.22	192.40
400 kV bay (2 No.)	124.60	128.74	133.02	137.42
Total	299.04	308.98	319.24	329.82
Asset-I (B)				
765 kV bay (1 No.)	87.22	90.12	93.11	96.20
400 kV bay (1 No.)	62.30	64.37	66.51	68.71
Total	149.52	154.49	159.62	164.91
Asset-I (C)				
400 kV bay (1 No.)	62.30	64.37	66.51	68.71
Asset-I (D)				
765 kV bay (1 No.)	87.22	90.12	93.11	96.20

Interest on Working Capital (“IWC”)

40. 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).

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

Asset- I(A):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	24.92	25.75	26.60	27.49
Maintenance Spares	44.86	46.35	47.89	49.47
Receivables	686.33	810.89	876.51	873.54
Total Working Capital	756.10	882.99	951.00	950.50
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	83.11	119.20	128.39	128.32

Asset- I(B):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	12.46	12.87	13.30	13.74
Maintenance Spares	22.43	23.17	23.94	24.74
Receivables	257.33	307.71	354.31	361.76
Total Working Capital	292.22	343.75	391.55	400.24
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	30.61	46.41	52.86	54.03

Asset- I(C):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	5.19	5.36	5.54	5.73
Maintenance Spares	9.35	9.66	9.98	10.31
Receivables	47.70	54.26	59.44	60.48
Total Working Capital	62.23	69.28	74.96	76.51
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	6.36	9.35	10.12	10.33



Asset- I(D):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	7.27	7.51	7.76	8.02
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	150.17	165.67	169.67	167.77
Total Working Capital	170.52	186.69	191.40	190.22
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	11.51	25.20	25.84	25.68

Annual Transmission Charges

42. 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- I(A):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	20052.62	24821.20	29626.57	30719.79
Additional Capitalisation	4768.58	4805.37	1093.22	0.00
Closing Gross Block	24821.20	29626.57	30719.79	30719.79
Average Gross Block	22436.91	27223.89	30173.18	30719.79
Rate of Depreciation	4.47	4.51	4.50	4.50
Depreciable Value	17273.67	21466.72	24005.86	24497.81
Balance Useful life of the asset	25	24	23	22
Elapsed Life	0	1	2	3
Remaining Depreciable Value	17273.67	20766.14	22192.70	21327.71
Depreciation	815.81	1227.81	1356.94	1383.62
Cumulative depreciation	815.81	2043.62	3400.55	4784.17
Interest on Loan				
Gross Normative Loan	14036.83	17374.84	20738.60	21503.85
Cumulative Repayment upto Previous Year	0.00	815.81	2043.62	3400.55
Net Loan-Opening	14036.83	16559.03	18694.98	18103.30
Additions	3338.01	3363.76	765.25	0.00
Repayment during the year	815.81	1227.81	1356.94	1383.62
Net Loan-Closing	16559.03	18694.98	18103.30	16719.68



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Average Loan	15297.93	17627.01	18399.14	17411.49
Weighted Average Rate of Interest on Loan	9.0763	9.0769	9.0808	9.0942
Interest	1130.52	1599.98	1670.79	1583.43
Return on Equity				
Opening Equity	6015.78	7446.36	8887.97	9215.94
Additions	1430.58	1441.61	327.97	0.00
Closing Equity	7446.36	8887.97	9215.94	9215.94
Average Equity	6731.07	8167.17	9051.95	9215.94
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	1079.96	1609.38	1783.73	1816.04
Interest on Working Capital				
O & M expenses	24.92	25.75	26.60	27.49
Maintenance Spares	44.86	46.35	47.89	49.47
Receivables	686.33	810.89	876.51	873.54
Total	756.10	882.99	951.00	950.50
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	83.11	119.20	128.39	128.32
Annual Transmission Charges				
Depreciation	815.81	1227.81	1356.94	1383.62
Interest on Loan	1130.52	1599.98	1670.79	1583.43
Return on Equity	1079.96	1609.38	1783.73	1816.04
Interest on Working Capital	83.11	119.20	128.39	128.32
O & M Expenses	243.48	308.98	319.24	329.82
Total	3352.87	4865.36	5259.08	5241.23

Asset- I(B):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	7151.65	8333.48	10866.16	11945.68
Additional Capitalisation	1181.83	2532.68	1079.52	0.00
Closing Gross Block	8333.48	10866.16	11945.68	11945.68
Average Gross Block	7742.57	9599.82	11405.92	11945.68
Rate of Depreciation	5.28	5.28	5.28	5.28
Depreciable Value	6968.31	8639.84	10265.33	10751.11



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Balance Useful life of the asset	25	24	23	22
Elapsed Life	0	1	2	3
Remaining Depreciable Value	6968.31	8322.62	9441.24	9324.79
Depreciation	317.22	506.87	602.23	630.73
Cumulative depreciation	317.22	824.09	1426.32	2057.05
Interest on Loan				
Gross Normative Loan	5006.16	5833.44	7606.31	8361.98
Cumulative Repayment upto Previous Year	0.00	317.22	824.09	1426.32
Net Loan-Opening	5006.16	5516.22	6782.22	6935.66
Additions	827.28	1772.87	755.66	0.00
Repayment during the year	317.22	506.87	602.23	630.73
Net Loan-Closing	5516.22	6782.22	6935.66	6304.92
Average Loan	5261.19	6149.22	6858.94	6620.29
Weighted Average Rate of Interest on Loan	9.2851	9.2851	9.2851	9.2853
Interest	379.06	570.96	636.86	614.72
Return on Equity				
Opening Equity	2145.50	2500.04	3259.85	3583.70
Additions	354.55	759.80	323.86	0.00
Closing Equity	2500.04	3259.85	3583.70	3583.70
Average Equity	2322.77	2879.95	3421.78	3583.70
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	355.16	567.51	674.28	706.19
Interest on Working Capital				
O & M expenses	12.46	12.87	13.30	13.74
Maintenance Spares	22.43	23.17	23.94	24.74
Receivables	257.33	307.71	354.31	361.76
Total	292.22	343.75	391.55	400.24
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	30.61	46.41	52.86	54.03
Annual Transmission Charges				
Depreciation	317.22	506.87	602.23	630.73
Interest on Loan	379.06	570.96	636.86	614.72
Return on Equity	355.16	567.51	674.28	706.19
Interest on Working Capital	30.61	46.41	52.86	54.03
O & M Expenses	116.02	154.49	159.62	164.91



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Total	1198.07	1846.24	2125.85	2170.58

Asset- I(C):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	1140.78	1351.19	1623.05	1758.95
Additional Capitalisation	210.41	271.86	135.90	0.00
Closing Gross Block	1351.19	1623.05	1758.95	1758.95
Average Gross Block	1245.99	1487.12	1691.00	1758.95
Rate of Depreciation	5.28	5.28	5.28	5.28
Depreciable Value	1121.39	1338.41	1521.90	1583.06
Balance Useful life of the asset	25	24	23	22
Elapsed Life	0	1	2	3
Remaining Depreciable Value	1121.39	1288.62	1393.59	1365.46
Depreciation	49.79	78.52	89.28	92.87
Cumulative depreciation	49.79	128.31	217.60	310.47
Interest on Loan				
Gross Normative Loan	798.55	945.83	1136.14	1231.27
Cumulative Repayment upto Previous Year	0.00	49.79	128.31	217.60
Net Loan-Opening	798.55	896.04	1007.82	1013.67
Additions	147.29	190.30	95.13	0.00
Repayment during the year	49.79	78.52	89.28	92.87
Net Loan-Closing	896.04	1007.82	1013.67	920.80
Average Loan	847.29	951.93	1010.75	967.23
Weighted Average Rate of Interest on Loan	8.9731	8.9738	8.9780	8.9902
Interest	57.54	85.42	90.75	86.96
Return on Equity				
Opening Equity	342.23	405.36	486.92	527.69
Additions	63.12	81.56	40.77	0.00
Closing Equity	405.36	486.92	527.69	527.69
Average Equity	373.80	446.14	507.30	527.69
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	55.75	87.91	99.97	103.98



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Working Capital				
O & M expenses	5.19	5.36	5.54	5.73
Maintenance Spares	9.35	9.66	9.98	10.31
Receivables	47.70	54.26	59.44	60.48
Total	62.23	69.28	74.96	76.51
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	6.36	9.35	10.12	10.33
Annual Transmission Charges				
Depreciation	49.79	78.52	89.28	92.87
Interest on Loan	57.54	85.42	90.75	86.96
Return on Equity	55.75	87.91	99.97	103.98
Interest on Working Capital	6.36	9.35	10.12	10.33
O & M Expenses	47.15	64.37	66.51	68.71
Total	216.59	325.58	356.63	362.85

Asset- I(D):

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	4126.68	4941.61	5330.37	5462.05
Additional Capitalisation	814.93	388.76	131.68	0.00
Closing Gross Block	4941.61	5330.37	5462.05	5462.05
Average Gross Block	4534.14	5135.99	5396.21	5462.05
Rate of Depreciation	5.28	5.28	5.28	5.28
Depreciable Value	4080.73	4622.39	4856.59	4915.85
Balance Useful life of the asset	25	24	23	22
Elapsed Life	0	1	2	3
Remaining Depreciable Value	4080.73	4502.69	4465.71	4240.04
Depreciation	119.70	271.18	284.92	288.40
Cumulative depreciation	119.70	390.88	675.80	964.20
Interest on Loan				
Gross Normative Loan	2888.67	3459.13	3731.26	3823.44
Cumulative Repayment upto Previous Year	0.00	119.70	390.88	675.80
Net Loan-Opening	2888.67	3339.43	3340.38	3147.63



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Additions	570.45	272.13	92.18	0.00
Repayment during the year	119.70	271.18	284.92	288.40
Net Loan-Closing	3339.43	3340.38	3147.63	2859.24
Average Loan	3114.05	3339.90	3244.01	3003.44
Weighted Average Rate of Interest on Loan	9.0982	9.0982	9.0982	9.1044
Interest	141.66	303.87	295.15	273.45
Return on Equity				
Opening Equity	1238.00	1482.48	1599.11	1638.62
Additions	244.48	116.63	39.50	0.00
Closing Equity	1482.48	1599.11	1638.62	1638.62
Average Equity	1360.24	1540.80	1618.86	1638.62
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	21.342	21.342	21.342	21.342
Rate of Return on Equity	19.705	19.705	19.705	19.705
Return on Equity	134.02	303.62	319.00	322.90
Interest on Working Capital				
O & M expenses	7.27	7.51	7.76	8.02
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	150.17	165.67	169.67	167.77
Total	170.52	186.69	191.40	190.22
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	11.51	25.20	25.84	25.68
Annual Transmission Charges				
Depreciation	119.70	271.18	284.92	288.40
Interest on Loan	141.66	303.87	295.15	273.45
Return on Equity	134.02	303.62	319.00	322.90
Interest on Working Capital	11.51	25.20	25.84	25.68
O & M Expenses	43.61	90.12	93.11	96.20
Total	450.50	994.00	1018.02	1006.62



Filing Fee and Publication Expenses

43. 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

44. 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

45. 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

46. 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.

47. This order disposes of Petition No. 140/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I

Asset- I(A):

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND - XLI-doco-	8.85	850.00	0.00	850.00
BOND - XLII-doco-	8.80	800.00	0.00	800.00
BOND - XLIII-doco-	7.93	800.00	0.00	800.00
BOND - XLIV-doco-	8.70	1050.00	0.00	1050.00
SBI (2014-15)-doco-	9.95	1900.00	0.00	1900.00
BOND XLVI -doco-	9.30	4650.00	0.00	4650.00
Bond XLVII-doco-	8.93	3248.88	0.00	3248.88
Proposed Loan 2015-2016 (8.40%)-doco-	8.40	737.95	0.00	737.95
Total		14036.83	0.00	14036.83

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

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	14036.83	14036.83	14036.83	14036.83
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	70.83	208.33
Net Loans Opening	14036.83	14036.83	13966.00	13828.50
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	70.83	137.50	758.24
Net Closing Loan	14036.83	13966.00	13828.50	13070.26
Average Net Loan	14036.83	14001.42	13897.25	13449.38
Rate of Interest on Loan (%)	9.0763%	9.0769%	9.0808%	9.0942%
Interest on Loan	1274.03	1270.89	1261.98	1223.11



Asset- I(B):**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND - XLII-doco-	8.80	1159.68	0.00	1159.68
SBI (2014-15)-doco-	9.95	26.00	0.00	26.00
BOND XLVI -doco-	9.30	3201.03	0.00	3201.03
Bond XLVII-doco-	8.93	75.77	0.00	75.77
Proposed loan at 10.25 percent (2015-16)-doco-	10.25	543.68	0.00	543.68
Total		5006.16	0.00	5006.16

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

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	5006.16	5006.16	5006.16	5006.16
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00
Net Loans Opening	5006.16	5006.16	5006.16	5006.16
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	6.31
Net Closing Loan	5006.16	5006.16	5006.16	4999.85
Average Net Loan	5006.16	5006.16	5006.16	5003.01
Rate of Interest on Loan (%)	9.2851%	9.2851%	9.2851%	9.2853%
Interest on Loan	464.83	464.83	464.83	464.55



Asset- I(C):**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND - XLI-doco-	8.85	108.00	0.00	108.00
BOND - XLII-doco-	8.80	130.00	0.00	130.00
BOND - XLIII-doco-	7.93	50.00	0.00	50.00
BOND - XLIV-doco-	8.70	80.00	0.00	80.00
SBI (2014-15)-doco-	9.95	100.00	0.00	100.00
BOND XLVI -doco-	9.30	223.97	0.00	223.97
Proposed Loan 2015-2016 (8.40%)-doco-	8.40	106.57	0.00	106.57
Total		798.54	0.00	798.54

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

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	798.54	798.54	798.54	798.54
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	9.00	22.17
Net Loans Opening	798.54	798.54	789.54	776.37
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	9.00	13.17	39.84
Net Closing Loan	798.54	789.54	776.37	736.53
Average Net Loan	798.54	794.04	782.96	756.45
Rate of Interest on Loan (%)	8.9731%	8.9738%	8.9780%	8.9902%
Interest on Loan	71.65	71.26	70.29	68.01



Asset- I(D):**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
Bond XLVII-doco-	8.93	2473.34	0.00	2473.34
PROPOSED LOAN 2015-16 (10.10%)-doco-	10.10	415.33	0.00	415.33
Total		2888.67	0.00	2888.67

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

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2888.67	2888.67	2888.67	2888.67
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00
Net Loans Opening	2888.67	2888.67	2888.67	2888.67
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	206.11
Net Closing Loan	2888.67	2888.67	2888.67	2682.56
Average Net Loan	2888.67	2888.67	2888.67	2785.62
Rate of Interest on Loan (%)	9.0982%	9.0982%	9.0982%	9.1044%
Interest on Loan	262.82	262.82	262.82	253.61

