

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 62/TT/2015

Coram:

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

Date of Hearing : 06.04.2016

Date of Order : 27.05.2016

In the matter of:

Determination of transmission tariff for Asset 1: LILO of Dehar-Bhiwani 400 kV S/C line at Rajpura Sub-station, Asset 2: LILO of Dehar-Panipat 400 kV S/C line at Panchkula Sub-station, Asset 3: Extension of Chamera 400/220 kV pooling Sub-station (GIS)-01 no. of 220 kV line bay, and Asset 4: Extension of 400 kV Kota Sub-station associated with "Northern Region System Strengthening Scheme-XXVII" in 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. Rajasthan Rajya Vidyut Prasaran Nigam Limited
Vidyut Bhawan, Vidyut Marg, Jaipur - 302 005
2. Ajmer Vidyut Vitran Nigam Ltd
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.
3. Jaipur Vidyut Vitran Nigam Ltd
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.



4. Jodhpur Vidyut Vitran Nigam Ltd
400 kV GSS Building (Ground Floor), Ajmer Road,
Heerapura, Jaipur.
5. Himachal Pradesh State Electricity Board
Vidyut Bhawan, Kumar House Complex Building II
Shimla-171 004
6. Punjab State Power Corporation Limited
Thermal SHED TIA
Near 22 Phatak, Patiala-147001
7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6, Panchkula (Haryana) 134 109
8. Power Development Deptt.
Govt. Of Jammu & Kashmir
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Ltd.
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg, Lucknow - 226 001
10. Delhi Transco Ltd
Shakti Sadan, Kotla Road,
New Delhi-110 002
11. BSES Yamuna Power Ltd,
BSES Bhawan, Nehru Place,
New Delhi.
12. BSES Rajdhani Power Ltd,
BSES Bhawan, Nehru Place, New Delhi
13. North Delhi Power Ltd,
Power Trading & Load Dispatch Group
CENNET Building, Adjacent To 66/11 kV Pitampura-3
GRID Building, Near PP Jewellers
Pitampura, New Delhi – 110034
14. Chandigarh Administration
Sector -9, Chandigarh.
15. Uttarakhand Power Corporation Ltd.
Urja Bhawan, Kanwali Road, Dehradun.



16. North Central Railway
Allahabad.

17. New Delhi Municipal Council
Palika Kendra, Sansad Marg, New Delhi-110002

....**Respondents**

The following were present:-

For Petitioner: Smt. Sangeeta Edwards, PGCIL
Shri S.S. Raju, PGCIL
Shri S.K Venkatesan, PGCIL
Shri M. M. Mondal, PGCIL
Shri Rakesh Prasad, PGCIL
Shri S.C Taneja, PGCIL
Shri Pankaj Sharma, PGCIL

For Respondent: Shri Mayank Sharma, Advocate, PSPCL
Shri Gaurav Gupta, Advocate, PSPCL

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for LILO of Dehar-Bhiwani 400 kV S/C line at Rajpura Sub-station (referred as "**Asset 1**"); LILO of Dehar-Panipat 400 kV S/C line at Panchkula Sub-station (referred as "**Asset 2**"); Extension of Chamera 400/220 kV pooling Sub-station (GIS)-01 no. of 220 kV line bay (referred as "**Asset 3**") and Extension of 400 kV Kota Sub-station (referred as "**Asset 4**") associated with "Northern Region System Strengthening Scheme-XXVII" 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 for the subject assets.



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 Northern 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/NRSS-XXVII dated 19.12.2012 in the meeting held on 6.12.2012 with an estimated cost of ₹9627.00 lakh including IDC of ₹445.00 lakh (based on August, 2012 price level). The apportioned approved costs for the subject Assets 1, 2, 3 and 4 are ₹4415.92 lakh, ₹3212.75 lakh, ₹1247.87 lakh and ₹750.46 lakh respectively. The petitioner has revised the apportioned approved costs for the instant assets vide affidavit dated 13.5.2016. The revised apportioned approved costs for the subject Assets 1, 2, 3 and 4 are ₹4530.99 lakh, ₹3312.76 lakh, ₹1053.00 lakh and ₹730.25 lakh respectively.

(b) The scope of works under “Northern Region System Strengthening Scheme- XXVII” is as follows:

Transmission line

- (i) LILO of Dehar- Bhiwani 400 kV S/C line in Rajpura sub-station (PSTCL)
- (ii) LILO of Dehar- Panipat 400 kV S/C line in Panchkula sub-station

Sub-stations

- (i) Extension of Rajpura 400/220 kV sub-station
- (ii) Extension of Panchkula 400/220 kV sub-station



- (iii) Extension of Kota 400/220 kV sub-station, 01 no. of 400 kV line bay
- (iv) Extension of Chamera 400/220 kV pooling sub-station (GIS)- 01 no. of 220 kV line bay

(c) The petitioner has earlier submitted the tariff forms based on anticipated COD and Management Certificates in respect of all the instant assets and claimed the transmission charges vide its petition dated 21.1.2015. Subsequently, the petitioner has submitted the Auditor Certificates and tariff forms for Asset 2 vide affidavit dated 13.4.2016 and for Asset 1, Asset 3 and Asset 4 vide affidavit dated 13.5.2016. The tariff claimed by the petitioner for the subject assets are given as under:-

Asset 1

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	176.83	229.31	236.65
Interest on Loan	199.8	241.47	229.06
Return on Equity	197.36	255.93	264.11
Interest on Working Capital	19.63	24.69	25.03
O&M Expenses	116.29	144.19	148.96
Total	709.91	895.59	903.81

Asset 2

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	126.87	162.19	174.22	174.22
Interest on Loan	156.87	188.26	187.42	170.53
Return on Equity	141.51	180.98	194.43	194.43
Interest on Working Capital	17.01	19.72	20.54	20.41
O&M Expenses	130.86	135.58	140.09	144.72
Total	573.12	686.73	716.7	704.31



Asset 3

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	27.1	48.23	54.19	55.58	55.58
Interest on Loan	33.99	57.04	59.7	56.08	50.62
Return on Equity	30.2	53.73	60.38	61.93	61.93
Interest on Working Capital	3.63	6.07	6.5	6.57	6.53
O&M Expenses	27.57	43.61	45.06	46.55	48.1
Total	122.49	208.68	225.83	226.71	222.76

Asset 4

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	1.02	34.26	39.17	39.17
Interest on Loan	1.14	36.68	38.97	35.54
Return on Equity	1.13	37.66	43.11	43.11
Interest on Working Capital	0.2	6.06	6.47	6.51
O&M Expenses	2.18	64.37	66.51	68.71
Total	5.67	179.03	194.23	193.04

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

Asset 1

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
O & M Expenses	11.63	12.02	12.41
Maintenance Spares	20.93	21.63	22.34
Receivables	141.98	149.27	150.64
Total	174.54	182.92	185.39
Rate of Interest (%)	13.50	13.50	13.50
Interest	19.63	24.69	25.03



Asset 2

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	10.94	11.3	11.67	12.06
Maintenance Spares	19.68	20.34	21.01	21.71
Receivables	95.79	114.46	119.45	117.39
Total	126.41	146.10	152.13	151.16
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	17.01	19.72	20.54	20.41

Asset 3

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M Expenses	3.52	3.63	3.76	3.88	4.01
Maintenance Spares	6.33	6.54	6.76	6.98	7.22
Receivables	31.25	34.78	37.64	37.79	37.13
Total	41.10	44.95	48.16	48.65	48.36
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	3.63	6.07	6.5	6.57	6.53

Asset 4

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	5.20	5.36	5.54	5.73
Maintenance Spares	9.36	9.66	9.98	10.31
Receivables	27.02	29.84	32.37	32.17
Total	41.58	44.86	47.89	48.21
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	0.20	6.06	6.47	6.51

4. The AFC for the instant assets was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 15.4.2015 based on anticipated COD. The petitioner has submitted the tariff



forms along with the Management Certificates for anticipated COD in its petition dated 21.1.2015. Subsequently, the petitioner has submitted the revised tariff forms along with Auditor Certificate through affidavit dated 12.4.2016 and 13.5.2016 based on actual COD or revised anticipated COD for various assets, as the case may be.

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 6.4.2016. None of the respondents have filed their reply. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Commercial Operation Date (“COD”)

6. The petitioner vide its affidavit dated 12.4.2016 has submitted the revised COD/anticipated COD for the subject assets as given below:-

Asset	Actual / Anticipated COD (as filed in petition)	Actual / Anticipated COD (revised)
Asset 1	31.3.2015 (anticipated)	1.6.2016 (revised anticipated COD)
Asset 2	1.2.2015 (anticipated)	2.4.2015 (actual)
Asset 3	6.8.2014 (actual)	6.8.2014 (actual)
Asset 4	1.2.2015 (anticipated)	19.3.2016 (actual)

7. 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”

8. The petitioner, vide its affidavits dated 4.4.2016 and 12.4.2016, has submitted RLDC certificates for Asset 2, Asset 3 and Asset 4 in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation. The petitioner has also revised the anticipated COD of Asset 1 to 1.6.2016 in its affidavit dated 4.4.2016.

9. Initially, the petitioner has claimed the tariff for Asset 1 on the anticipated date of commercial operation of 31.3.2016 and has also submitted the Auditor Certificate. The petitioner has now revised the date of commercial operation to 1.6.2016. The tariff for Asset 1 is allowed on the basis of anticipated date of



commercial operation of 1.6.2016. However, the tariff allowed for Asset 1 will be applicable from the actual date of commercial operation subject to truing up.

10. As regards to Asset 4, the petitioner has submitted that the downstream assets being executed by RRVPNL are not ready and have prayed for approval of COD under proviso (ii) to Regulation 4(3) of the 2014 Tariff Regulations. In this regard, the petitioner has submitted the letters dated 7.11.2014, 27.11.2014 and 15.12.2014 written by it to RRVPNL regarding the downstream assets. However, the petitioner has neither submitted the response of RRVPNL nor communication, if any, received from RRVPNL. Further, RRVPNL has not submitted any reply to the petition. The status of commissioning of the downstream assets is not clear. We would like to hear RRVPNL regarding the status of commissioning of the downstream assets executed by it before deciding the date of commercial operation of Asset-4. Accordingly, the tariff of Asset-4 is not allowed in the instant order and the petitioner is directed to file a separate petition seeking tariff for Asset-4 alongwith the status of the downstream assets.

11. Accordingly, the commercial operation dates of the instant transmission Asset 1, Asset 2, Asset 3 have been considered as 1.6.2016 (anticipated), 2.4.2015, 6.8.2014 respectively. The tariff is worked out from 1.6.2016 to 31.3.2019 for Asset 1, from 2.4.2015 to 31.3.2019 for Asset 2, from 6.8.2014 to 31.3.2019 for Asset 3.



Capital Cost

12. Initially, the petitioner had claimed capital cost of ₹2932.38 lakh for Asset 1, ₹1795.97 lakh for Asset 2, ₹744.94 lakh for Asset 3, as on COD/anticipated COD vide affidavit dated 21.1.2015. Subsequently the petitioner has submitted vide affidavits dated 12.4.2016 and 13.5.2016, the Auditor Certificates for all the assets and revised tariff forms for Asset 1, Asset 2 . The tariff form based on actual COD in respect of Asset 3 was submitted along with the original petition dated 21.1.2015. The following capital costs are claimed by the petitioner:-

(₹ in lakh)

Asset	Approved cost as per FR	Revised apportioned cost as per affidavit dated 13.5.16	Capital cost as on COD	Additional Capital Expenditure					Estimated completion cost as on 31.3. 2019
				2014-15	2015-16	2016-17	2017-18	2018-19	
Asset 1	4415.92	4530.99	3775.59	0.00	0.00	461.41	184.56	92.28	4513.84
Asset 2	3212.75	3312.76	1988.99	0.00	845.04	455.02	0.00	0.00	3289.05
Asset 3	1247.87	1053.00	744.94	81.83	173.20	52.73	0.00	0.00	1052.70

13. 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:

- the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- 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.”

14. The capital cost claimed by the petitioner is considered for the purpose of tariff subject to prudence check as discussed in subsequent paras.

Cost Overrun

15. As per the initial petition submitted vide affidavit dated 21.1.2015, there was significant variation in the cost of few elements in Asset 1, 2. Further, there is cost overrun in respect of Asset 1 and 2 when seen with respect to the initial apportionment of approved cost. However, the petitioner has submitted the revised apportionment of cost vide affidavit dated 13.5.2016. Thus, the estimated



completion cost of Asset 1 and 2 is ₹4513.84 lakh and ₹3289.05 lakh against the approved cost of ₹4530.99 lakh and ₹3312.76 lakh respectively. Thus, there is no cost overrun as per the RCE.

16. The Commission had directed the petitioner to justify the cost variations in the elements and to explain the basis on which FR estimates were prepared for the assets. The petitioner has filed the reasons for costs variation vide affidavit dated 12.4.2016.

17. The petitioner has submitted that in Asset 1, the variation is due to increase in rate as per award with respect to the FR cost and reduction in the line length due to change in tower types (D-Type towers) due to which tower steel insulators and hardware fitting changed. The petitioner has submitted that in case of Asset 2, the variation is due to difference in award cost and FR cost as the reason for cost variations.

18. The petitioner has submitted that as regard to the cost comparison/variation, as per policy in the petitioner company, the bid prices are invited for the complete scope of work on overall basis. The break-up of these prices are for the purpose of on-account payment only. The comparison of prices for a particular package is also done with its cost estimate on overall basis. The provision regarding this policy has been included in the 'Works & Procurement Policy and Procedure', Vol.-1 of POWERGRID (para 84.11 .3.7) which, inter-alia, stipulates that the qualified bidder, whose bid is determined as the lowest



evaluated, techno commercially responsive and, who is considered to have the capacity and capability to perform the contract based on the assessment, if carried out, will be recommended for award and the recommended price shall be compared with the approved cost estimate. The comparison shall be done only between total recommended price and the total cost estimate. Price of individual items will not be compared for the above purpose. The petitioner has submitted that the procurement framework of the petitioner, which adopts best procurement practices, has been assessed by the World Bank. Further, similar items may not always have the same rate in different contracts awarded during the same period or even within the same contract. The differences of rates may be because of various market forces and the pricing strategies followed by bidder(s) to decide the spread of their total prices over different items. Further, such pricing strategies may be different in case of different bidders and different packages. As such comparing the prices of individual items would not serve much purpose once the purpose of ensuring the comparative positions of bidder on overall basis gets served during the Evaluation Stage. In view of the forgoing, the petitioner has submitted that a more realistic approach for analysing the prices would be to examine the prices for complete FR vis-a-vis the actual completed cost of the project instead of analysing the same on price component wise basis as the procurement in the petitioner company is done on overall basis.

19. We have considered the submissions made by the petitioner regarding cost variation in case of the instant transmission assets. There is over-estimation of the cost of the assets. We are of the view that the petitioner should adopt a



prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

IDC and IEDC

20. The petitioner, vide Auditor certificates dated 7.5.2016, 14.8.2015, 18.9.2014, has submitted the details pertaining to IDC and IEDC up to COD for the instant transmission assets as given hereunder:

(₹ in lakh)

Asset	IEDC up to COD	IDC up to COD
Asset 1	153.13	363.18
Asset 2	69.23	124.13
Asset 3	15.62	27.18

21. The petitioner has submitted the details of IDC discharged for Asset 2 vide affidavit dated 13.4.2016 and IDC discharged for Asset 3 vide affidavit dated 13.5.2016. As regards Asset 1, the petitioner has submitted that the tariff forms for Asset 1 are on anticipated basis and the cash IDC adjustment will be done after actual COD of the asset. Therefore, total IDC is considered to be discharged up to COD in case of Asset 1, subject to true up on actual basis. The IDC discharged for the instant assets are depicted as below:-

(₹ in lakh)

Asset	Total IDC	IDC discharged up to COD	Accrual IDC up to COD (to be discharged during 2015-16)	Accrual IDC up to COD (to be discharged during 2016-17)
Asset 1	363.18	363.18	0.00	0.00
Asset 2	124.13	101.70	21.95	0.00
Asset 3	27.18	27.18	0.00	0.00



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 for the instant assets as discharged on cash basis.

Time Overrun

23. As per the investment approval, the commissioning schedule of the project is 20 months from the date of investment approval. The investment approval was accorded on 6.12.2012 and hence the schedule date of commercial operation was 6.8.2014. The COD/anticipated COD of the instant assets and the corresponding time overrun are as below:-

Asset	COD	Time overrun (Days)
Asset 1	1.6.2016 (anticipated)	665
Asset 2	2.4.2015	239
Asset 3	6.8.2014	0

24. The petitioner has submitted the following reasons for delay in commissioning of the instant assets.

Asset 1 and Asset 2:

25. The petitioner has attributed delay in commissioning of Asset 1 and 2 to the ROW issues at Rajpura and Panchkula respectively. The petitioner has claimed that during commencement of the work in December 2013, some people started intervening in the work. As a result, the work was held up in few locations. The matter was brought up to the notice of local administrator and Secretary (Power), Punjab. The petitioner has submitted that with intervention of Secretary



(Power) Punjab, various meetings were held with the Tower Sangharsh Samiti (supported by political leaders) by local administration. The Tower Sangharsh Samiti was insisting to pay the cost of land in addition to the tree/crop compensation. The petitioner has submitted that in line with the Electricity Act, 2003, only tree/crop compensation is to be paid. Thus, the state administration did not agree to the demand of Tower Sangharsh Samiti for payment of cost of land. The District Magistrate issued directions to the petitioner vide letter dated 12.2.2014 to enhance the compensation amount to 30%. But, the same was not agreed by the Tower Sangharsh Samiti. The work came to stand still as the agitation of Tower Sangharsh Samiti continued to stop the work. The petitioner requested the administration to provide police protection for executing the work to complete it in scheduled time.

26. The petitioner has submitted that the District Magistrate, Patiala, vide letter dated 5.3.2014 & 27.5.2014 directed the SSP, Patiala to provide police protection for work. Finally, the police force was deployed on 2.7.2014 for protection and execution of work commenced in such locations. The petitioner has submitted various supporting documents along-with the petition.

27. We have considered the submissions of the petitioner for time over-run in case of the instant assets. There is a time overrun of 665 days, on the basis of anticipated date of commercial operation, in case of Asset 1. We are not going into the details of time overrun in case of Asset 1 as the asset has not yet been commissioned. The merits of time overrun in case of Asset 1 shall be



considered when the actual COD of the asset is achieved. Accordingly, IDC and IEDC Thus, IDC and IEDC for 665 days is being adjusted in the capital cost in respect of Asset 1.

28. As regards Asset 2, the petitioner has attributed delay to the ROW issues and submitted correspondences to support its claim. The petitioner has reported the first instance of ROW issue through its letter to Secretary (Power), Government of Punjab dated 27.12.2013. The petitioner has also submitted letters dated 10.1.2014, 13.1.2014, 17.1.2014, 13.2.2014, 19.2.2014, 19.2.2014, 5.3.2014, 8.3.2014, 28.5.2014, 1.7.2014, and 3.7.2014 to substantiate its claim. Additionally, in its petition the petitioner has submitted that the police force was deployed on 2.7.2014 and the work was completed under police protection.

29. The time overrun due to ROW issues is beyond the control of the petitioner. Based on the documents submitted by the petitioner, the first instance of ROW reported is 27.12.2013 and the last instance is 2.7.2014 i.e. a period of 187 days. Therefore, time overrun of 187 days due to ROW issues for Asset 2 is condoned. There is a total time overrun of 665 days for Asset 1 and 239 days for Asset 2. Therefore, after condoning time over-run of 187 days due to ROW issues, 51 days time over-run in case of Asset 2 is disallowed. Further, as discussed in the aforesaid para 27, the time overrun of 665 days in case of Asset 1 is disallowed. Accordingly, the IDC and IEDC for the disallowed period for Asset 1 and 2 are deducted as below:-



Asset 1

IDC/IEDC as per Auditor's Certificate	Amount (₹ in lakh)	Total period (Days)	Disallowed period (days)	Disallowed (₹ in lakh)
IDC	363.18#	1157*	665	208.74
IEDC	153.13#	1273**	665	79.99
Total				288.74

IDC/IEDC discharged as per Auditor Certificate

* From the date of infusion of IDC (1.4.2013) to the anticipated COD (1.6.2016)

** From the date of IA (6.12.2012) to the date of anticipated COD (1.6.2016)

Asset 2

(₹ in lakh)

IDC/IEDC as per Auditor's certificate	Amount	Total period (Days)	Disallowed period (days)	Disallowed
IDC	123.65#	398*	51	15.84
IEDC	69.23#	847**	51	4.17
Total				20.01

IDC/IEDC discharged as per Auditor Certificate

* From the date of infusion of IDC (28.2.2014) to the actual COD (2.4.2015)

** From the date of IA (6.12.2012) to the date of actual COD (2.4.2015)

30. As regards Asset 1, the petitioner has submitted a capital cost as on COD of ₹3775.59 lakh. The capital cost as on COD considered for tariff calculations is ₹3259.28 lakh, after deducting the total disallowed IDC and IEDC of ₹288.74 lakh.

31. As regards Asset 2, the petitioner has submitted a capital cost as on COD of ₹1988.99 lakh. The capital cost as on COD considered for tariff calculations is ₹1947.02 lakh, after deducting the total disallowed IDC and IEDC of ₹20.01 lakh and IDC disbursed on cash basis during 2015-16 of ₹21.95 lakh.



Initial Spares

32. The petitioner has claimed initial spares vide Auditor's certificates dated 7.5.2016, 14.8.2015, 18.9.2014 and 11.5.2016 in respect of transmission line and substation based on the estimated cost up to the cut-off date. The petitioner has submitted detailed break-up of capital costs towards Plants and Machinery (exc. IDC, IEDC, land, civil works) and initial spares for the instant transmission assets vide its affidavit dated 21.5.2016 as per the following details:-

(₹ in lakh)

Asset	P&M cost (exc. IDC, IEDC, land, civil works)		Initial Spares claimed		Initial Spares as per Norms		Excess initial spares	
	TL	S/S	TL	S/S	TL (1.00%)	S/S (6.00%)	TL	S/S
Asset 1	2481.07	1408.01	23.95	84.48	24.82	84.48	0.00	0.00
Asset 2	1960.81	1115.79	19.08	45.87	19.61	68.29	0.00	0.00
Asset 3	0.00	1009.89	0.00	85.39	0.00	59.01	0.00	26.38

33. The total initial spares claimed by the petitioner for Asset 1 and Asset 2 are within the limits prescribed under Regulation 13 of the Tariff Regulation, 2014 and therefore allowed for capitalisation. As regards Asset 3, the petitioner has claimed excess initial spares of ₹26.38 lakh. Therefore the excess initial spares of ₹26.38 lakh in sub-station are disallowed for Asset 3. Accordingly the capitalization of the initial spares for Asset 3 is restricted to ₹59.01 lakh as per the limit prescribed under Regulation 13 of the Tariff Regulation, 2014.

34. In respect of Asset 3, the petitioner has submitted a capital cost as on COD of ₹744.94 lakh. After restricting the capitalization of the initial spares to ₹60.59 lakh as per the limit prescribed under Regulation 13 of the Tariff



Regulation, 2014 the capital cost as on COD considered for Asset 3 is ₹720.14 lakh.

35. The capital cost on COD considered for tariff computation is as below:

(₹ in lakh)

Asset	Capital cost as on COD claimed by the petitioner	IDC discharged on Cash basis post COD	IDC disallowed due to time overrun	IEDC disallowed due to time overrun	Excess Initial Spares	Capital Cost as on COD considered for Tariff computation
Asset 1	3775.59	0.00	208.75	79.99	0.00	3486.85
Asset 2	1988.99	21.95	15.84	4.17	0.00	1947.03
Asset 3	744.94	0.00	0.00	0.00	26.38	718.56

Additional Capital Expenditure

36. The petitioner has proposed the additional capital expenditure towards balance and retention payment under Regulation 14(1) (i) of 2014 Tariff Regulations for the instant assets. The petitioner has claimed additional capital expenditure of ₹461.41 lakh, ₹184.56 lakh and ₹92.28 lakh during the years 2016-17, 2017-18 and 2018-19 respectively for Asset 1, ₹845.04 lakh and ₹455.02 lakh for the years 2015-16 and 2016-17 respectively for Asset 2, ₹81.83 lakh, ₹173.20 lakh and ₹52.73 lakh for the years 2014-15, 2015-16 and 2016-17 respectively for Asset 3.

37. The petitioner has submitted the IDC discharged for Asset 2 vide affidavit dated 12.4.2016 and IDC discharged for Asset 3 vide affidavit dated 13.5.2016. As regards Asset 1, the petitioner has submitted that the cash IDC adjustment will be done after actual COD of the asset. Accordingly, the cash IDC adjustment for Asset will be considered during the true-up of Asset 1.



38. As regards Asset 2, since the IDC is disallowed after COD therefore the IDC discharged after COD is also disallowed.

39. It is observed that total estimated completion cost of Asset 1, Asset 2 Asset 3 including the additional capitalization is within the apportioned approved cost. Accordingly, additional capitalization for all the subject assets allowed under Regulation 14(1)(i) of 2014 Tariff Regulations, subject to true up on actual basis, is depicted as below:-

(₹ in lakh)

Asset	Re-Apportione d Cost as per affidavit dated 13.5.2016	Capital cost as on COD	Additional Capital Expenditure					Estimated Completion Cost as on 31.3.2019
			2014- 15	2015-16	2016-17	2017- 18	2018- 19	
Asset 1	4530.99	3486.85	0.00	0.00	461.41	184.56	92.28	4225.10
Asset 2	3312.76	1947.02	0.00	845.04	455.02	0.00	0.00	3247.08
Asset 3	1053.00	718.56	81.83	173.20	52.73	0.00	0.00	1026.32

Debt: Equity Ratio

40. 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.”



41. The petitioner has considered debt:equity ratio as 70:30 as on COD for the subject asset. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2014-15, 2015-16 and 2016-17 for all the subject assets. The details of the debt:equity as on the date of COD and 31.3.2019 for the instant assets considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset	Funding	As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
		Amount	(%)	Amount	(%)	Amount	(%)
Asset 1	Debt	2440.80	70.00	516.78	70.00	2957.57	70.00
	Equity	1046.05	30.00	221.48	30.00	1267.53	30.00
	Total	3486.85	100.00	738.25	100.00	4225.10	100.00
Asset 2	Debt	1362.91	70.00	910.04	70.00	2272.95	70.00
	Equity	584.11	30.00	390.02	30.00	974.12	30.00
	Total	1947.02	100.00	1300.06	100.00	3247.08	100.00
Asset 3	Debt	502.99	70.00	215.43	70.00	718.42	70.00
	Equity	215.57	30.00	92.33	30.00	307.90	30.00
	Total	718.56	100.00	307.76	100.00	1026.32	100.00

Interest on Loan (“IOL”)

42. 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.”

43. 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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	2440.80	2763.79	2892.98
Cumulative Repayment upto Previous Year	0.00	164.00	378.02
Net Loan-Opening	2440.80	2599.78	2514.96
Additions	322.99	129.19	64.60
Repayment during the year	164.00	214.02	221.35
Net Loan-Closing	2599.78	2514.96	2358.20
Average Loan	2520.29	2557.37	2436.58
Weighted Average Rate of Interest on Loan (%)	8.8275	8.8158	8.8000
Interest on Loan	185.30	225.45	214.42



Asset 2

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	1362.91	1954.44	2272.95	2272.95
Cumulative Repayment upto Previous Year	0.00	125.24	285.21	457.20
Net Loan-Opening	1362.91	1829.20	1987.75	1815.75
Additions	591.53	318.51	0.00	0.00
Repayment during the year	125.24	159.96	172.00	172.00
Net Loan-Closing	1829.20	1987.75	1815.75	1643.75
Average Loan	1596.05	1908.47	1901.75	1729.75
Weighted Average Rate of Interest on Loan (%)	9.7284	9.7284	9.7301	9.7337
Interest on Loan	154.85	185.66	185.04	168.37

Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	560.27	681.51	718.42	718.42
Cumulative Repayment upto Previous Year	26.15	72.98	125.78	179.97
Net Loan-Opening	534.13	608.53	592.65	538.46
Additions	121.24	36.91	0.00	0.00
Repayment during the year	46.83	52.80	54.19	54.19
Net Loan-Closing	608.53	592.65	538.46	484.27
Average Loan	571.33	600.59	565.55	511.36
Weighted Average Rate of Interest on Loan (%)	9.6981	9.6908	9.6759	9.6599
Interest on Loan	55.41	58.20	54.72	49.40

Return on Equity("ROE")

44. 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”

“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.”

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

46. 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.



47. 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 assets is given below:-

Asset 1

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	1046.06	1184.48	1239.85
Additions	138.42	55.37	27.68
Closing Equity	1184.48	1239.85	1267.53
Average Equity	1115.27	1212.16	1253.69
Return on Equity (Base Rate) (%)	15.500	15.500	15.500
MAT rate for the respective year (%)	21.342	21.342	21.342
Rate of Return on Equity (%)	19.705	19.705	19.705
Return on Equity	183.04	238.86	247.05

Asset 2

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	584.11	837.62	974.12	974.12
Additions	253.51	136.51	0.00	0.00



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Closing Equity	837.62	974.12	974.12	974.12
Average Equity	710.86	905.87	974.12	974.12
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	139.70	178.51	191.96	191.96

Asset 3

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	240.12	292.08	307.90	307.90
Additions	51.96	15.82	0.00	0.00
Closing Equity	292.08	307.90	307.90	307.90
Average Equity	266.10	299.99	307.90	307.90
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	52.18	58.83	60.38	60.38

Depreciation

48. 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.”

49. 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”

50. As regards Asset 1, we have computed depreciation considering capital expenditure of ₹3486.86 lakh and additional capitalization of ₹461.41 lakh, ₹184.56 lakh and ₹92.28 lakh for 2016-17, 2017-18 and 2018-19 respectively. As regards Asset 2, we have computed depreciation considering capital expenditure of ₹1947.02 lakh and additional capitalization of ₹845.04 lakh and ₹455.02 lakh for 2015-16 and 2016-17 respectively. As regards Asset 3, we have computed depreciation considering capital expenditure of ₹718.56 lakh and additional capitalization of ₹81.83 lakh, ₹173.20 lakh and ₹52.73 lakh for 2014-15, 2015-16 and 2016-17 respectively.



51. 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)		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	3486.85	3948.26	4132.82
Additional Capitalisation	461.41	184.56	92.28
Closing Gross Block	3948.26	4132.82	4225.10
Average Gross Block	3717.56	4040.54	4178.96
Rate of Depreciation (%)	5.30	5.30	5.30
Depreciable Value	3345.80	3636.49	3761.07
Balance useful life of the asset	31.00	30.00	29.00
Elapsed life	0.00	1.00	2.00
Remaining Depreciable Value	207.63	3472.49	3383.05
Depreciation during the year	164.00	214.02	221.35
Depreciation upto previous year	0.00	164.00	378.02
Cumulative depreciation	164.00	378.02	599.37

Asset 2

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	1947.02	2792.06	3247.08	3247.08
Additional Capitalisation	845.04	455.02	0.00	0.00
Closing Gross Block	2792.06	3247.08	3247.08	3247.08
Average Gross Block	2369.54	3019.57	3247.08	3247.08
Rate of Depreciation (%)	5.30	5.30	5.30	5.30
Depreciable Value	2132.58	2717.61	2922.37	2922.37
Balance useful life of the asset	30.00	29.00	28.00	27.00
Elapsed life	0.00	1.00	2.00	3.00
Remaining Depreciable Value	2132.58	2592.37	2637.16	2465.16
Depreciation during the year	125.24	159.96	172.00	172.00
Depreciation upto previous year	0.00	125.24	285.21	457.20



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Cumulative depreciation	125.24	285.21	457.20	629.20

Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	800.39	973.59	1026.32	1026.32
Additional Capitalisation	173.20	52.73	0.00	0.00
Closing Gross Block	973.59	1026.32	1026.32	1026.32
Average Gross Block	886.99	999.96	1026.32	1026.32
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	798.29	899.96	923.69	923.69
Balance useful life of the asset	24.00	23.00	22.00	21.00
Elapsed life	1.00	2.00	3.00	4.00
Remaining Depreciable Value	772.14	826.98	797.91	743.72
Depreciation during the year	46.83	52.80	54.19	54.19
Depreciation upto previous year	26.15	72.98	125.78	179.97
Cumulative depreciation	72.98	125.78	179.97	234.16

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

52. The instant petition covers two 400 kV bay and 14.32 Ckt Kms of D/C Twin Conductor for Asset 1, two 400 kV bay and 9.06 Ckt Kms of D/C Twin Conductor for Asset 2, one 220 kV bay for Asset 3. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses for a 400 kV bay:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Norm (₹ lakh/bay)					
220 kV	42.21	43.61	45.06	46.55	48.10
400 kV	60.30	62.30	64.37	66.51	68.71
Norm (₹ lakh/KM)					
D/C Twin/Triple Conductor	0.71	0.73	0.76	0.78	0.81



53. The petitioner has claimed O&M Expenses as specified in sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. The details of O&M Expenses allowed are given hereunder:-

(₹ in lakh)					
Asset	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset 1	0.00	0.00	116.23 (pro-rata)	144.19	148.96
Asset 2	0.00	130.86 (pro-rata)	135.58	140.09	144.72
Asset 3	27.52	43.61	45.06	46.55	48.10

54. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. 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.

55. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

Interest on Working Capital (“IWC”)



56. 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).

57. The interest on working capital allowed is shown in the tables below:-

Asset 1

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
O & M expenses	9.68	12.01	12.41
Maintenance Spares	17.43	21.63	22.34
Receivables	111.21	141.02	142.62
Total	138.32	174.66	177.37
Rate of Interest	13.50%	13.50%	13.50%
Interest on Working Capital	18.67	23.58	23.95



Asset 2

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	10.90	11.29	11.67	12.06
Maintenance Spares	19.63	20.34	21.01	21.71
Receivables	94.59	113.21	118.24	116.21
Total	125.12	144.84	150.92	149.98
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	16.89	19.55	20.37	20.25

Asset 3

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	3.63	3.75	3.88	4.01
Maintenance Spares	6.54	6.76	6.98	7.22
Receivables	34.00	36.88	37.05	36.42
Total	44.17	47.39	47.91	47.64
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	5.96	6.40	6.47	6.43

Annual Transmission Charges

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

Asset 1

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation			
Opening Gross Block	3486.85	3948.26	4132.82
Additional Capitalisation	461.41	184.56	92.28
Closing Gross Block	3948.26	4132.82	4225.10



Particulars	2016-17 (pro-rata)	2017-18	2018-19
Average Gross Block	3717.56	4040.54	4178.96
Freehold Land (Av. Cost)	0.00	0.00	0.00
Rate of Depreciation (%)	5.30	5.30	5.30
Depreciable Value	3345.80	3636.49	3761.07
Balance useful life of the asset	31.00	30.00	29.00
Elapsed life	0.00	1.00	2.00
Remaining Depreciable Value	207.63	3472.49	3383.05
Depreciation during the year	164.00	214.02	221.35
Depreciation upto previous year	0.00	164.00	378.02
Cumulative depreciation (incl. of AAD)	164.00	378.02	599.37
Interest on Loan			
Gross Normative Loan	2440.80	2763.79	2892.98
Cumulative Repayment upto Previous Year	0.00	164.00	378.02
Net Loan-Opening	2440.80	2599.78	2514.96
Additions	322.99	129.19	64.60
Repayment during the year	164.00	214.02	221.35
Net Loan-Closing	2599.78	2514.96	2358.20
Average Loan	2520.29	2557.37	2436.58
Weighted Average Rate of Interest on Loan (%)	8.83	8.82	8.80
Interest on Loan	185.30	225.45	214.42
Return on Equity			
Opening Equity	1046.06	1184.48	1239.85
Additions	138.42	55.37	27.68
Closing Equity	1184.48	1239.85	1267.53
Average Equity	1115.27	1212.16	1253.69
Return on Equity (Base Rate)(%)	15.500	15.500	15.500
MAT rate for the respective year (%)	21.342	21.342	21.342
Rate of Return on Equity (%)	19.705	19.705	19.705
Return on Equity	183.04	238.86	247.05
Interest on Working Capital			
O & M expenses	9.68	12.01	12.41



Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	17.43	21.63	22.34
Receivables	111.21	141.02	142.62
Total	138.32	174.66	177.37
Rate of Interest	13.50	13.50	13.50
Interest on Working Capital	18.67	23.58	23.95
Annual Transmission Charges			
Depreciation	164.00	214.02	221.35
Interest on Loan	185.30	225.45	214.42
Return on Equity	183.04	238.86	247.05
Interest on Working Capital	18.67	23.58	23.95
O & M Expenses	116.23	144.19	148.96
Total	667.24	846.10	855.72

Asset 2

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	1947.02	2792.06	3247.08	3247.08
Additional Capitalisation	845.04	455.02	0.00	0.00
Closing Gross Block	2792.06	3247.08	3247.08	3247.08
Average Gross Block	2369.54	3019.57	3247.08	3247.08
Rate of Depreciation (%)	5.30%	5.30%	5.30%	5.30%
Depreciable Value	2132.58	2717.61	2922.37	2922.37
Balance useful life of the asset	30.00	29.00	28.00	27.00
Elapsed life	0.00	1.00	2.00	3.00
Remaining Depreciable Value	2132.58	2592.37	2637.16	2465.16
Depreciation during the year	125.24	159.96	172.00	172.00
Depreciation upto previous year	0.00	125.24	285.21	457.20
Cumulative depreciation	125.24	285.21	457.20	629.20
Interest on Loan				
Gross Normative Loan	1362.91	1954.44	2272.95	2272.95
Cumulative Repayment upto Previous Year	0.00	125.24	285.21	457.20



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Net Loan-Opening	1362.91	1829.20	1987.75	1815.75
Additions	591.53	318.51	0.00	0.00
Repayment during the year	125.24	159.96	172.00	172.00
Net Loan-Closing	1829.20	1987.75	1815.75	1643.75
Average Loan	1596.05	1908.47	1901.75	1729.75
Weighted Average Rate of Interest on Loan (%)	9.7284%	9.7284%	9.7301%	9.7337%
Interest on Loan	154.85	185.66	185.04	168.37
Return on Equity				
Opening Equity	584.11	837.62	974.12	974.12
Additions	253.51	136.51	0.00	0.00
Closing Equity	837.62	974.12	974.12	974.12
Average Equity	710.86	905.87	974.12	974.12
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	139.70	178.51	191.96	191.96
Interest on Working Capital				
O & M expenses	10.90	11.29	11.67	12.06
Maintenance Spares	19.63	20.34	21.01	21.71
Receivables	94.59	113.21	118.24	116.21
Total	125.12	144.84	150.92	149.98
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	16.89	19.55	20.37	20.25
Annual Transmission Charges				
Depreciation	125.24	159.96	172.00	172.00
Interest on Loan	154.85	185.66	185.04	168.37
Return on Equity	139.70	178.51	191.96	191.96
Interest on Working Capital	16.89	19.55	20.37	20.25
O & M Expenses	130.86	135.58	140.09	144.72
Total	567.54	679.27	709.45	697.29



Asset 3

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	718.56	800.39	973.59	1026.32	1026.32
Additional Capitalisation	81.83	173.20	52.73	0.00	0.00
Closing Gross Block	800.39	973.59	1026.32	1026.32	1026.32
Average Gross Block	759.48	886.99	999.96	1026.32	1026.32
Freehold Land (Av. Cost)	0.00	0.00	0.00	0.00	0.00
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	683.53	798.29	899.96	923.69	923.69
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	683.53	772.14	826.98	797.91	743.72
Depreciation during the year	26.15	46.83	52.80	54.19	54.19
Depreciation upto previous year	0.00	26.15	72.98	125.78	179.97
Cumulative depreciation (incl. of AAD)	26.15	72.98	125.78	179.97	234.16
Interest on Loan					
Gross Normative Loan	502.99	560.27	681.51	718.42	718.42
Cumulative Repayment upto Previous Year	0.00	26.15	72.98	125.78	179.97
Net Loan-Opening	502.99	534.13	608.53	592.65	538.46
Additions	57.28	121.24	36.91	0.00	0.00
Repayment during the year	26.15	46.83	52.80	54.19	54.19
Net Loan-Closing	534.13	608.53	592.65	538.46	484.27
Average Loan	518.56	571.33	600.59	565.55	511.36
Weighted Average Rate of Interest on Loan (%)	9.6981%	9.6981%	9.6908%	9.6759%	9.6599%
Interest on Loan	50.29	55.41	58.20	54.72	49.40
Return on Equity					
Opening Equity	215.57	240.12	292.08	307.90	307.90
Additions	24.55	51.96	15.82	0.00	0.00
Closing Equity	240.12	292.08	307.90	307.90	307.90
Average Equity	227.84	266.10	299.99	307.90	307.90
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	44.68	52.18	58.83	60.38	60.38
Interest on Working Capital					
O & M expenses	2.29	3.63	3.75	3.88	4.01
Maintenance Spares	4.13	6.54	6.76	6.98	7.22
Receivables	19.86	34.00	36.88	37.05	36.42
Total	26.28	44.17	47.39	47.91	47.64
Rate of Interest	13.500%	13.500%	13.500%	13.500%	13.500%
Interest on Working Capital	3.55	5.96	6.40	6.47	6.43
Annual Transmission Charges					
Depreciation	26.15	46.83	52.80	54.19	54.19
Interest on Loan	32.79	55.41	58.20	54.72	49.40
Return on Equity	29.13	52.18	58.83	60.38	60.38
Interest on Working Capital	3.55	5.96	6.40	6.47	6.43
O & M Expenses	27.52	43.61	45.06	46.55	48.10
Total	119.14	204.00	221.29	222.31	218.50

Filing Fee and Publication Expenses

59. 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

60. 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

61. 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

62. The transmission charges for Asset 1 shall be applicable from the date of actual COD. 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.

63. This order disposes of Petition No. 62/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19

Asset 1

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.03.2012)-DOCO-	9.55	79.00	0.00	79.00
SBI (21.03.2012)-DOCO-	9.55	270.00	0.00	270.00
BOND XLV- DOCO-	9.65	214.04	0.00	214.04
SBI (2014-15)-DOCO-	9.55	100.00	0.00	100.00
BOND XLVI -DOCO-	9.30	163.71	0.00	163.71
BOND XLVII -DOCO-	8.93	362.00	0.00	362.00
BOND XLVIII -DOCO-	8.20	676.58	0.00	676.58
BOND XLIX -DOCO-	8.15	98.42	0.00	98.42
BOND L-DOCO-	8.40	416.00	0.00	416.00
BOND LI- DOCO-	8.40	108.21	0.00	108.21
PROPOSED LOAN 2016-17 9.55% -DOCO-	9.55	154.95	0.00	154.95
Total		2642.91	0.00	2642.91

Asset 2

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND -XLV -Loan 1-	9.65	700.00	0.00	700.00
SBI (2014-15) -Loan 2-	10.25	363.00	0.00	363.00
BOND XLVI -DOCO-	9.30	313.93	0.00	313.93
Total		1376.93	0.00	1376.93

Asset 3

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.03.2012)-LOAN-	10.25	50.00	0.00	50.00



Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.03.2012)- LOAN-	10.25	100.00	0.00	100.00
BOND XLV -DOCO-	9.65	185.96	0.00	185.96
PROPOSED LOAN 2014-15 (9.30%)- DOCO-	9.30	185.50	0.00	185.50
Total		521.46	0.00	521.46

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

Asset 1

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Gross Opening Loan	2642.91	2642.91	2642.91
Cumulative Repayments of Loans upto Previous Year	0.00	31.73	81.30
Net Loans Opening	2642.91	2611.18	2561.61
Add: Draw(s) during the Year	0.00	0.00	0.00
Less: Repayments of Loan during the year	31.73	49.57	79.74
Net Closing Loan	2611.18	2561.61	2481.87
Average Net Loan	2627.05	2586.40	2521.74
Rate of Interest on Loan (%)	8.8275%	8.8158%	8.8000%
Interest on Loan	231.90	228.01	221.91

Asset 2

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1376.93	1376.93	1376.93	1376.93
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	58.33
Net Loans Opening	1376.93	1376.93	1376.93	1318.60
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00
Less: Repayments of Loan	0.00	0.00	58.33	58.33



Particulars	2015-16	2016-17	2017-18	2018-19
during the year				
Net Closing Loan	1376.93	1376.93	1318.60	1260.27
Average Net Loan	1376.93	1376.93	1347.77	1289.44
Rate of Interest on Loan (%)	9.7284%	9.7284%	9.7301%	9.7337%
Interest on Loan	133.95	133.95	131.14	125.51

Asset 3

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	521.46	521.46	521.46	521.46	521.46
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	13.64	42.78
Net Loans Opening	521.46	521.46	521.46	507.82	478.68
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	0.00	0.00	13.64	29.14	29.14
Net Closing Loan	521.46	521.46	507.82	478.68	449.54
Average Net Loan	521.46	521.46	514.64	493.25	464.11
Rate of Interest on Loan (%)	9.6981%	9.6981%	9.6908%	9.6759%	9.6599%
Interest on Loan	50.57	50.57	49.87	47.73	44.83

