

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 252/TT/2015

Coram:

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

Date of Hearing : 14.03.2016

Date of Order : 25.04.2016

In the matter of:

Determination of transmission tariff for 2019 for Assets (05 Nos.) under "Transmission System for phase –I Generation projects in Orissa - Part A" in Eastern 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. GMR Kamalanga Energy Ltd.
Skip House 25/1, Museum Road
Bangalore, Karnataka 560025
2. Monnet Power Company Ltd.
Monnet Marg, Mandir Hasaud,
Raipur, Chattisgarh – 492101
3. Lanco Babandh Power Ltd.
Plot No. 397, Phase III, 2nd Floor,
Udyog Vihar, Gurgaon,
Haryana -120016



4. IND Barath Energy (Utkal) Ltd.
Plot No. 30-A, Road No. 1
Film Nagar, Jublie Hills
Hydrabad, Andhra Pradesh -500033
5. Navbharat Power Private Ltd.
Navbharat Chambers, 6-3-1109/1,
3rd Floor, Left Wing, Rajbhawan Road
Somajiguda, Hyderabad, Andhra Pradesh - 500082
6. Jindal India Thermal Power Ltd.
Plot No-12, Sector-B Pocket -1,
Local Shopping Complex,
VasantKunj, New Delhi -110070
7. Sterlite Energy Limited
Sipcot Industrial Complex
Tuticorin, Tamilnadu-628002
8. Bihar State Power (Holding) Company Ltd
(formerly Bihar State Electricity Board -BSEB)
Vidyutbhavan, bailey road, Patna – 800 001
9. West Bengal State Electricity Distribution Company
Bidyut Bhawan, bidhannagar
Block DJ, sector-II, Salt Lake City
Kolkata - 700 091
10. Grid Corporation of Orissa Ltd.
Shahid Nagar,Bhubaneshwar- 751007
11. Damodar Valley Corporation
DVC Tower, Maniktala
Civic Centre, VIP Road,Kolkata-700054
12. Power Department
Govt of Sikkim, Gangtok-737101
13. Jharkhand State Electricity Board
Doranda, Ranchi-834002

....Respondents

The following were present:-

For Petitioner: Shri S.S. Raju, PGCIL
 Shri Rakesh Prasad, PGCIL



Shri Jasbir Singh, PGCIL
Shri Aryaman Saxena, PGCIL
Shri M.M. Mondal, PGCIL

For Respondent: None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for (i) 765 kV S/C Angul-Sundargarh (line-I) transmission line and its bays and with 1 no (anticipated) under (3X80)MVAR line reactor & 1 no 80MVAR present spare reactor each at Angul & Sundargarh (referred as “Asset I”); (ii) 01 no. (3X110) MVAR Bus Reactor (2nd) and associated bay at Angul (referred as “Asset II”); (iii) 01 no. (3X500) MVA Transformer (3rd) Transformer and associated bay at Angul (referred as “Asset III”); (iv) 01 no. (3X500) MVA Transformer (4th) Transformer and associated bay at Angul (referred as “Asset IV”); and (v) LILO of one Ckt of Talcher Meramundali 400 kV D/C line at Angul Sub-station (referred as “Asset V”) under “Transmission System for phase - I Generation projects in Orissa - Part A” in Eastern Region under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from date of commercial operation to 31.3.2019.

2. The respondents are distribution licensees or electricity departments or power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Eastern and North Eastern 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 C/CP/IA/Orissa Ph –I IPPs (Part -A) dated 17.9.2010 for ₹207,486 lakh including an IDC of ₹12,820 lakh based on 1st Quarter 2010 price level. Further, Revised Cost Estimate (RCE) for the project was accorded by Board of Directors of the petitioner company vide letter dated 23.2.2015 for ₹234,837 lakh including an IDC of ₹24,472 lakh (Based on 1st Quarter, 2014 price level). The total revised approved apportioned cost for the instant assets (5 Nos.) is ₹79,960.74 lakh.

(b) The scope of the instant project is as under:-

Transmission Line

- i) Angul Pooling station - Jharsuguda (Sundergarh) Pooling Station 765 kV 2XS/C line.
- ii) LILO of Rourkela - Raigarh 400kV DIC Line at Jharsuguda Pooling Station.
- iii) LILO of Meramundali - Jeypore 400kV S/C line at Angul Pooling Station.
- iv) LILO of one Ckt of Talcher - Meramundali 400kV DIC line at Angul Pooling station.

Sub-stations

- i) 2X1500 MVA, 765/400kV Pooling station at Jharsuguda (Sundergarh) (new)#
- ii) 2X1500 MVA, 765/400 kV Pooling station at Angul (new)

Reactive Compensation:

Bus Reactor



Sl.	Sub-Station	Bus reactor (765 kV)	Bus reactor (400 kV)
1	765/400 kV Jharsugura	2X240 MVAR	2X125 MVAR
2	765/400 kV Angul	2X330 MVAR	3X125 MVAR

Line Reactor

Sl.	Sub-Station	Line Reactor (765 kV)	
		Angul	Jharsugura
1	765/400 kV Angul	240 MVAR (Switchable on each circuit)	240 MVAR (Fixed) on each circuit

(# Sub-station at Jharsugura is known as Sundergarh Sub-station)

- (c) The petitioner has revised the tariff forms based on actual COD and claimed the transmission charges vide affidavits dated 10.3.2016 and 11.3.2016 as under:-

Asset I

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	526.93	3034.43	3121.65	3121.65
Interest on Loan	612.67	3368.37	3193.61	2915.22
Return on Equity	589.95	3397.35	3495.01	3495.01
Interest on Working Capital	43.6	247.3	248.26	242.59
O&M Expenses	68.57	393.15	406.32	419.78
Total	1841.72	10440.6	10464.85	10194.25

Asset II

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	166.45	192.71	192.71	192.71
Interest on Loan	177.16	191.08	175.06	159.09
Return on Equity	186.36	215.76	215.76	215.76
Interest on Working Capital	17.02	18.78	18.58	18.38
O&M Expenses	87.22	90.12	93.11	96.2
Total	634.21	708.45	695.22	682.14



Asset III

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	42.58	276.59	309.80	309.80
Interest on Loan	49.40	307.08	319.62	291.94
Return on Equity	47.67	309.67	346.85	346.85
Interest on Working Capital	4.75	29.10	31.29	30.94
O&M Expenses	27.73	154.49	159.62	164.91
Total	172.13	1076.93	1167.18	1144.44

Asset IV

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation	240.57	299.28	299.28	299.28
Interest on Loan	271.87	316.81	290.32	264.36
Return on Equity	269.35	335.07	335.07	335.07
Interest on Working Capital	26.26	30.43	30.10	29.80
O&M Expenses	149.52	154.49	159.62	164.91
Total	957.57	1136.08	1114.39	1093.42

Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	188.52	211.71	215.92	215.92	215.92
Interest on Loan	192.11	203.23	190.10	171.95	153.2
Return on Equity	210.05	237.03	241.74	241.74	241.74
Interest on Working Capital	20.94	22.59	22.75	22.59	22.43
O&M Expenses	132.89	137.31	141.87	146.58	151.44
Total	744.51	811.87	812.38	798.78	784.73

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



Asset I

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
O & M Expenses	31.73	32.76	33.86	34.98
Maintenance Spares	57.11	58.97	60.95	62.97
Receivables	1704.27	1740.10	1744.14	1699.04
Total	1793.11	1831.83	1838.95	1796.99
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest (pro-rata)	43.60	247.30	248.26	242.59

Asset II

(₹ in lakh)

Particulars	2015-16	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	105.7	118.08	115.87	113.69
Total	126.05	139.11	137.6	136.14
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	17.02	18.78	18.58	18.38

Asset III

(₹ in lakh)

Particulars	2015-16	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	154.66	179.49	194.53	190.74
Total	189.55	215.53	231.77	229.22
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest (pro-rata)	4.75	29.10	31.29	30.94



Asset IV

Particulars	(₹ in lakh)			
	2015-16	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	159.60	189.35	185.73	182.24
Total	194.49	225.39	222.97	220.72
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest	26.26	30.43	30.10	29.80

Asset V

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	11.07	11.44	11.82	12.22	12.62
Maintenance Spares	19.93	20.60	21.28	21.99	22.72
Receivables	124.09	135.31	135.40	133.13	130.79
Total	155.09	167.35	168.50	167.34	166.13
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	20.94	22.59	22.59	22.59	22.43

4. The annual fixed charges for the instant assets was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 17.12.2015 based on actual/anticipated COD. The petitioner has submitted the cash IDC, Auditor Certificates, and revised tariff forms vide affidavits dated 10.3.2016 and 11.3.2016 and the same has been considered for the purpose of computation of tariff.

5. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the



public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 14.12.2015. 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 has claimed the date of the commercial operation of the instant transmission Asset I as 27.1.2016, Asset II as 1.4.2015, Asset III as 25.1.2016, Asset IV as 1.4.2015 and Asset V as 1.4.2014.

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
xxx”

8. The petitioner has submitted CEA letters in support of the claim of commercial operation of the instant assets vide its affidavit dated 28.3.2016. However, the petitioner has not submitted RLDC certificates in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation. The COD of the instant assets is provisionally admitted and the



petitioner is directed to submit the RLDC at the time of truing up or next revision of tariff. The provisionally admitted date of commercial operation of the instant assets is given hereunder:-

Assets	Actual COD
Asset I	27.1.2016
Asset II	1.4.2015
Asset III	25.1.2016
Asset IV	1.4.2015
Asset V	1.4.2014

Capital Cost

9. The petitioner initially claimed the following capital cost for the instant transmission assets based on the actual/anticipated COD:-

- Asset I: capital cost of ₹53513.22 lakh as on COD (Anticipated)
- Asset II: capital cost of ₹2759.91 lakh as on COD (Actual)
- Asset III: capital cost of ₹4767.34 lakh as on COD (Anticipated)
- Asset IV: capital cost of ₹3569.60 lakh as on COD (Actual)
- Asset V: capital cost of ₹3930.04 lakh as on COD (Actual)

10. Later, the petitioner vide affidavit dated 10.3.2016 and 11.3.2016 has submitted the actual COD`s, revised tariff forms and Auditor`s certificates. The petitioner has claimed the following costs:-

(₹ in lakh)

Asset	Approved apportioned cost as per FR	Approved apportioned cost as per RCE	Capital cost as on COD	Additional capital expenditure			Estimated completion cost as on 31.3.2019
				2014-15	2015-16	2016-17	
Asset I	41113.97	60652.20	56168.86	0.00	553.42	2400.00	59122.28
Asset II	2840.34	3657.10	2759.91	0.00	889.87	0.00	3649.78
Asset III	8064.93	5876.99	4169.27	0.00	500.00	1198.19	5867.46



Asset	Approved apportioned cost as per FR	Approved apportioned cost as per RCE	Capital cost as on COD	Additional capital expenditure			Estimated completion cost as on 31.3.2019
				2014-15	2015-16	2016-17	
Asset IV	8064.93	5679.25	3569.60	0.00	2098.55	0.00	5668.15
Asset V	3070.83	4095.20	3299.98	630.06	159.42	0.00	4089.46
Total	63155.00	79960.74	69967.62	630.06	4108.54	3690.91	78397.13

11. Regulation 9 (1), 9(2) and 10 (1) of the 2014 Tariff Regulations specify as follows:-

“9. Capital Cost: (1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.

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

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

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

- (1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time:



Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

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

IDC and IEDC

13. The petitioner vide Auditor certificates dated 9.3.2016 and 10.3.2016 has submitted the IDC and IEDC upto COD for the instant transmission assets as given hereunder:-

(₹ in lakh)		
Asset	IEDC upto COD	IDC upto COD
Asset I	1803.43	10394.09
Asset II	96.29	295.61
Asset III	142.03	564.15
Asset IV	124.54	384.34
Asset V	84.84	207.36

14. The petitioner has further submitted the IDC discharged as below:-

(₹ in lakh)					
Asset	IDC discharged upto COD	Accrual upto (discharged during 2014-15)	IDC COD	Accrual upto COD (to be discharged during 2015-16)	Accrual IDC upto COD (to be discharged during 2016-17)
Asset I	9225.48		0.00	264.36	904.25
Asset II	190.83		0.00	104.78	0.00
Asset III	480.46		0.00	23.98	59.71



Asset	IDC discharged upto COD	Accrual upto (discharged during 2014-15)	IDC COD	Accrual upto COD (to be discharged during 2015-16)	IDC upto COD (to be discharged during 2016-17)
Asset IV	257.17		0.00	125.17	0.00
Asset V	118.45		88.91	0.00	0.00

15. We have considered the capital cost of the instant assets after adjusting the IDC and IEDC discharged on cash basis for the purpose of computation of tariff for the 2014-19 tariff period.

Time over-run

16. As per the investment approval, the commissioning schedule of the project is 30 months from the date of investment approval. The investment approval was accorded on 10.9.2010 and hence the schedule date of commercial operation was 10.3.2013. There is time over-run in commissioning of all five assets as given below:-

Asset	Schedule COD	Actual COD	Time over-run
Asset I	10.3.2013	27.1.2016	35 months
Asset II	10.3.2013	01.4.2015	25 months
Asset III	10.3.2013	25.1.2016	35 months
Asset IV	10.3.2013	01.4.2015	25 months
Asset V	10.3.2013	01.4.2014	13 months

17. The petitioner has submitted the following reasons for delay:

(a) Land Acquisition



- i) There was delay in handing over the land by Government of Odisha for 765/400 KV Pooling Station at Angul. The application for land acquisition was submitted to Government of Odisha on 17.12.2009 and 22.12.2009 and subsequently on 2.1.2010, 9 months before the Investment Approval (IA). The land acquisition was completed on 26.03.2012, around two years after the application for land acquisition.
- ii) There was delay in handing over the land by Government of Odisha for 765/400 KV Pooling Station at Jharsuguda (Sundargarh). The application for land acquisition was submitted to Government of Odisha on 29.9.2009, around 12 months before the Investment approval (IA). The land acquisition was completed on 17.1.2013, about three years after the application for land acquisition.

(b) Right Of Way (ROW)

- i) The petitioner has claimed that it faced severe ROW constraints both at Angul and Jharsugura (Sundargarh) end. The petitioner has submitted correspondences related to ROW issues in support of its claim.

(c) Forest Clearance

- i) The petitioner has submitted that it initiated the process for obtaining the forest clearance by submitting the proposal for forest clearance on 18.7.2011 and the revised proposal on 1.2.2012. The petitioner has further submitted that the Stage-II clearance (final) by



the MOEF, Government of India was granted on 29.4.2014. The petitioner got tree cutting orders obtained for Sundergarh and Rairakhol on 12.8.2014 and 24.8.2014 respectively.

18. The petitioner has submitted the following reasons for delay in particular to Asset V:

(a) Right Of Way (ROW)

- i) The petitioner has claimed that it faced severe hurdles almost from the beginning of construction of this line. The petitioner has submitted correspondence including FIR letters in this regard.
- ii) The petitioner has submitted that M/s Bhushan Steel had earlier planned to construct their Airport in the alignment of the said line near Village Arahata. The matter was finally resolved in the meeting held on 11.6.2013 in presence of Chief Secretary, Energy Secretary, Director (Technical) OPTCL & ED (POWERGRID) and final order issued by Government Of Odisha on 28.6.2013 that the transmission line will be constructed in the original route and the proposed Airport shall be shifted to other place. The petitioner has submitted the Government of Odisha order dated 28.03.2013 in support of its claim. The petitioner has attributed the delay of approximately 14 months due to above reason.

(b) Non clearance of Shut down



- i) The petitioner has claimed that its line was ready for commissioning from 24.12.2013, however could not be commissioned due to non-permission of shut down by M/s OPTCL at the tapping point.

19. We have considered the submissions of the petitioner with regards to instant assets. As regards Asset I, Asset II, Asset III and Asset IV the petitioner has claimed time over-run on account of delay due to land acquisition at Angul and Jharsugura (Sundargarh) Pooling Stations, delay due to forest clearance and delay due to ROW issues. The delays considered for each of the issues are as follows:-

- a. The petitioner has claimed that it had initiated the land acquisition process before the IA. The petitioner has submitted documents to substantiate its claim. As per the Form 12 submitted by the petitioner alongwith the petition, the possession of land at both Angul and Sundargarh Pooling Stations was to be handed over on 3.3.2011. As per the documents submitted by the petitioner, the land acquisition at Angul and Sundargarh Pooling Stations was completed on 26.3.2012 and 17.1.2013 respectively. Therefore, there is a delay of thirteen months and twenty-two months due to land acquisition at Angul and Sundargarh respectively.
- b. The petitioner has submitted its letters and FIR complaints in support of its claim for ROW issues. The first such letters reporting ROW issues at Angul and Sundargarh end are dated 3.1.2012 and 25.4.11



respectively. Similarly, the last such letters reporting ROW issues at Angul and Sundargarh end are dated 27.2.2014 and 6.7.2015. The petitioner has also submitted multiple letters for the interim period reporting ROW issues at Angul and Sundargarh end. Therefore, there is a delay of twenty-six months of and fifty-one months on account of ROW issues at Angul and Sundargarh end respectively.

c. The petitioner has submitted documents to substantiate its claim for delay due to forest clearance. As per the documents, the petitioner had applied for the forest clearance on 18.7.2011 and it finally got tree cutting orders obtained for Sundergarh and Rairakhol on 12.8.2014 and 24.8.2014 respectively. Therefore, it took thirty eight months in obtaining forest clearance.

20. The asset wise delay considered for each of the Asset I, Asset II, Asset III and Asset IV are as follows:-

a. As regards Asset I, there is a total time over-run of thirty-five months from SCOD to actual COD. We have considered time delay for Asset I on account of land acquisition at Angul (thirteen months) and Sundargarh (twenty-two months), ROW issues at Angul (twenty-six months) and Sundargarh (fifty-one months) and forest clearance (thirty-eight months). The commissioning of the assets have been delayed on account of above reasons. It is observed that the petitioner has made efforts, however, the delay occurred on account of reasons beyond the control of the petitioner. There is a overlapping of delay on account of the above



reasons and accordingly, we hold that the time over-run of thirty-five months is not attributable to the petitioner.

b. As regards Asset II, there is a total time over-run of twenty-five months from SCOD to actual COD. We have considered time delay for Asset II on account of land acquisition at Angul (thirteen months) as admissible delay. We hold that the time over-run due to land acquisition is not attributable to the petitioner in this case and hence, the time over-run of thirteen months is condoned for Asset II and the remaining twelve months are disallowed. Accordingly, IDC and IEDC of twelve months are disallowed. The petitioner in its affidavit dated 11.3.2016 has submitted the break-up of IDC discharged on cash-basis. The IDC and IEDC disallowed is shown as below:-

IDC and IEDC as per CA certificate	Amount	Period from IDC/IEDC Infusion	Disallowed time over-run	Disallowed IDC and IEDC
	(in ₹ lakh)	(in months)	(in months)	(in ₹ lakh)
IDC	295.61#	54*	12	65.69
IEDC	96.29	55**		21.01
Total				86.70

IDC cash discharged upto actual COD

IEDC discharged upto actual COD

* From the date of infusion of IDC (21.10.2010) to the actual COD (1.4.2015)

** From the date of IA (10.9.2010) to the date of actual COD (1.4.2015)

21. Further, the petitioner in its affidavit has submitted that out of total IDC of ₹295.61 lakh, IDC discharged upto COD was ₹190.83 lakh and balance ₹104.78 lakh has been discharged during 2015-16. As IDC discharged after COD falls



under the disallowed period, therefore the IDC discharged during 2015-16 is also deducted.

22. As regards Asset III, there is a total time over-run of thirty-five months from SCOD to actual COD. We have considered time delay for Asset III on account of land acquisition at Angul (thirteen months) as admissible delay. We hold that the time over-run due to land acquisition is not attributable to the petitioner in this case and hence, time over-run of thirteen months is condoned for Asset III and the remaining twenty-two months are disallowed. Accordingly, IDC and IEDC of twenty-two months are disallowed. The IDC and IEDC disallowed is shown as below:-

IDC and IEDC as per CA certificate	Amount	Period from IDC and IEDC Infusion	Disallowed time over-run	Disallowed IDC and IEDC
	(₹ in lakh)	(in months)	(in months)	(₹ in lakh)
IDC	564.15#	46*	22	269.81
IEDC	142.03##	65**		48.07
Total				317.88

IDC cash discharged upto actual COD

IEDC discharged upto actual COD

* From the date of infusion of IDC (29.3.2012) to the actual COD (25.1.2016)

** From the date of IA (10.9.2010) to the date of actual COD (25.1.2016)

23. Further, the petitioner in its affidavit dated 10.3.2016 has submitted that out of total IDC of ₹564.15 lakh, IDC discharged upto COD was ₹480.46 lakh and balance ₹23.98 lakh and ₹59.71 lakh has been discharged during 2015-16 and 2016-17 respectively. As IDC discharged after COD falls under the disallowed period, the IDC discharged during 2015-16 and 2016-17 are also deducted.



24. As regards Asset IV, there is a total time over-run of twenty-five months from SCOD to actual COD. We have considered time delay for Asset IV on account of land acquisition at Angul (thirteen months) as admissible delay. We hold that the time over-run due to land acquisition is not attributable to the petitioner in this case and hence, time over-run of thirteen months is condoned for Asset IV and the remaining twelve months are disallowed. Accordingly, IDC and IEDC of twelve months are disallowed. The petitioner in its affidavit dated 11.3.2016 has submitted the break-up of IDC discharged on cash-basis. The IDC and IEDC disallowed is shown as below:-

IDC and IEDC as per CA certificate	Amount	Period from IDC and IEDC Infusion	Disallowed time over-run	Disallowed IDC and IEDC
	(in ₹ lakh)	(in months)	(in months)	(in ₹ lakh)
IDC	382.34#	46*	12	84.96
IEDC	124.54##	65**		27.17
Total				112.14

IDC cash discharged upto actual COD

IEDC discharged upto actual COD

* From the date of infusion of IDC (21.10.2010) to the actual COD (1.4.2015)

** From the date of IA (10.9.2010) to the date of actual COD (1.4.2015)

25. Further, the petitioner in its affidavit has submitted that out of total IDC of ₹382.34 lakh, IDC discharged upto COD was ₹257.17 lakh and balance ₹125.17 lakh has been discharged during 2015-16. As IDC discharged after COD falls under the disallowed period, therefore the IDC discharged during 2015-16 is also deducted.



26. As regards Asset V, the petitioner has attributed the delay due to ROW issues, and non-clearance of shut-down by OPTCL. We have considered the following delays:-

(a) The petitioner has submitted its letters and FIR complaints in support of its claim for ROW issues. The first such letters reporting ROW issue is dated 3.1.2012. Similarly, the last such letters reporting ROW is dated 3.10.13. The petitioner has also submitted multiple letters for the interim period reporting ROW issues. Therefore, there is a delay of twenty-one months due to ROW issues.

(b) The petitioner has submitted that due to non-clearance of shut-down there was delay. The petitioner has also submitted the letters from OPTCL regarding the same.

27. There is total time-over-run of thirteen months in the commissioning of Asset V. The time delay of twenty-one months on account of ROW issues is beyond the control of the petitioner and hence the time over-run of thirteen months is condoned for Asset V.

28. The capital cost considered for tariff determination after deducting the disallowed IDC and IEDC and the IDC discharged during additional capitalization for the subject assets are as shown below:-



(₹ in lakh)

Asset	Approved Apportioned Cost as per FR	Approved Apportioned Cost as per RCE	Capital cost as on COD
Asset I	41113.97	60652.20	55000.25# (56168.86-264.36-904.25)
Asset II	2840.34	3657.10	2568.43* (2759.91-104.78-86.70)
Asset III	8064.93	5876.99	3767.70** (4169.27-23.98-59.71-317.88)
Asset IV	8064.93	5679.25	3332.29*** (3569.60-125.17-112.14)
Asset V	3070.83	4095.20	3211.07## (3299.98-88.91)
Total	63155.00	79960.74	67879.74

After deducting IDC of ₹264.36 lakh and ₹904.25 lakh during additional capitalization in 2015-16 and 2016-17 respectively

* After deducting IDC of ₹104.78 lakh during additional capitalization in 2015-16 and disallowed IDC and IEDC of ₹86.70 lakh

** After deducting IDC of ₹23.98lakh and ₹59.71 lakh during additional capitalization in 2015-16 and 2016-17 and disallowed IDC and IEDC of ₹317.88lakh

*** After deducting IDC of ₹125.17 lakh during additional capitalization in 2015-16 and disallowed IDC and IEDC ₹112.14 lakh

After deducting IDC of ₹88.91 lakh during additional capitalization in 2014-15

Initial Spares

29. The petitioner has claimed initial spares for the instant transmission assets as per the following details:-

(₹ in lakh)

Asset	Initial Spares	
	Transmission Lines	Sub-Station
Asset I	402.00	207.40
Asset II	0.00	87.30
Asset III	0.00	101.56
Asset IV	0.00	101.56
Asset V	20.78	10.80



30. The total initial spares claimed by the petitioner for all five assets are within the limits prescribed under Regulation 13 of the Tariff Regulation, 2014 and therefore allowed for capitalisation.

Additional Capital Expenditure

31. The petitioner has proposed additional capitalization towards balance and retention payment under Regulation 14(1) (i) of 2014 Tariff Regulations. As regards Asset I, the petitioner has claimed additional capitalization of ₹553.42 lakh and ₹2400.00 lakh for the years 2015-16 and 2016-17 respectively. As regards Asset II, the petitioner has claimed additional capitalization of ₹889.87 lakh for the year 2015-16. As regards Asset III, the petitioner has claimed additional capitalization of ₹500.00 lakh and ₹1198.19 lakh for the years 2015-16 and 2016-17 respectively. As regards Asset IV, the petitioner has claimed additional capitalization of ₹2098.55 lakh for the year 2015-16. As regards Asset V, the petitioner has claimed additional capitalization of ₹630.06 lakh, ₹66.70 lakh and ₹92.72 lakh for the years 2014-15, 2015-16 and 2016-17 respectively.

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

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

33. The cut-off date for both the Asset I, Asset II, Asset III, Asset IV and Asset V works out to be 31.3.2019, 31.3.2018, 31.3.2019, 31.3.2018 and 31.3.2016



respectively. The additional capitalization claimed by the petitioner is within the cut-off date. It is observed that total estimated completion costs of the subject assets including the additional capitalizations are within the approved revised apportioned costs. Accordingly, additional capitalization for all the subject assets is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations as below:-

Asset	Approved apportioned cost as per FR	Approved apportioned cost as per RCE	Capital cost as on COD	Additional capital expenditure			Total completion cost
				2014-15	2015-16	2016-17	
Asset I	41113.97	60652.20	55000.25# (56168.86-264.36-904.25)	0.00	817.78@ (553.42+264.36)	3304.25@ (2400.00+904.25)	59122.28
Asset II	2840.34	3657.10	2568.43* (2759.91-104.78-65.69-21.01)	0.00	889.87	0.00	3458.30
Asset III	8064.93	5876.99	3767.70** (4169.27-23.98-59.71-269.81-48.07)	0.00	500.00	1198.19	5465.89
Asset IV	8064.93	5679.25	3332.29*** (3569.60-125.17-84.96-27.17)	0.00	2098.55	0.00	5430.84
Asset V	3070.83	4095.20	3211.07## (3299.98-88.91)	718.97@@ (630.06+88.91)	159.42	0.00	4098.46
Total	63155.00	79960.74	67879.74	718.97	4372.90	4595.16	77566.77

After deducting IDC of ₹264.36 lakh and ₹904.25 lakh during additional capitalization in 2015-16 and 2016-17 respectively

* After deducting IDC of ₹104.78 lakh during additional capitalization in 2015-16 and disallowed IDC and IEDC of ₹65.69 lakh and ₹21.01 lakh respectively

** After deducting IDC of ₹23.98 lakh and ₹59.71 lakh during additional capitalization in 2015-16 and 2016-17 and disallowed IDC and IEDC of ₹269.81 lakh and ₹48.07 lakh respectively



- *** After deducting IDC of ₹125.17 lakh during additional capitalization in 2015-16 and disallowed IDC and IEDC ₹84.96 lakh and ₹27.17 lakh respectively
- ## After deducting IDC of ₹88.91 lakh during additional capitalization in 2014-15
- @ Addition of IDC of ₹264.36 lakh and ₹904.25 lakh discharged during 2015-16 and 2016-17 respectively
- @@ Addition of IDC of ₹88.91 lakh discharged during 2014-15

Debt:Equity Ratio

12. 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.”

13. 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 of each subject asset considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-



(₹ in lakh)

Asset		As on COD		Additional capitalization during 2014-19		As on 31.3.2019	
		Amount	(%)	Amount	(%)	Amount	(%)
Asset I	Debt	38,500.19	70.00	2885.42	70.00	41,385.61	70.00
	Equity	16,500.07	30.00	1236.61	30.00	17,736.67	30.00
	Total	55,000.25	100.00	4,122.03	100.00	59,122.28	100.00
Asset II	Debt	1797.90	70.00	622.91	70.00	2420.81	70.00
	Equity	770.53	30.00	266.96	30.00	1037.49	30.00
	Total	2568.43	100.00	889.87	100.00	3458.30	100.00
Asset III	Debt	2637.39	70.00	1188.73	70.00	3826.12	70.00
	Equity	1130.31	30.00	509.46	30.00	1639.77	30.00
	Total	3767.70	100.00	1698.19	100.00	5465.89	100.00
Asset IV	Debt	2332.61	70.00	1468.99	70.00	3801.59	70.00
	Equity	999.69	30.00	629.57	30.00	1629.25	30.00
	Total	3332.29	100.00	2098.55	100.00	5430.84	100.00
Asset V	Debt	2247.78	70.00	614.87	70.00	2862.65	70.00
	Equity	963.29	30.00	263.52	30.00	1226.81	30.00
	Total	3211.07	100.00	878.39	100.00	4089.46	100.00

Interest on Loan (“IOL”)

14. 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.”



15. 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 I

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	38500.19	39072.63	41385.61	41385.61
Cumulative Repayment upto previous year	0.00	519.57	3554.00	6675.65
Net Loan-Opening	38500.19	38553.06	37831.61	34709.95
Additions during the year	572.45	2312.98	0.00	0.00
Repayment during the year	519.57	3034.42	3121.66	3121.66
Net Loan-Closing	38553.06	37831.61	34709.95	31588.29
Average Loan	38526.62	38192.33	36270.78	33149.12
Rate of Interest (%)	8.8303%	8.8211%	8.8067%	8.7962%
Interest	604.18	3369.00	3194.26	2915.87



Asset II

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross loan opening	1797.90	2420.81	2420.81	2420.81
Cumulative Repayment upto previous year	0.00	159.11	341.70	524.30
Net Loan-Opening	1797.90	2261.70	2079.11	1896.51
Additions during the year	622.91	0.00	0.00	0.00
Repayment during the year	159.11	182.60	182.60	182.60
Net Loan-Closing	2261.70	2079.11	1896.51	1713.91
Average Loan	2029.80	2170.41	1987.81	1805.21
Rate of Interest (%)	8.3430%	8.3365%	8.3387%	8.3443%
Interest	169.35	180.93	165.76	150.63

Asset III

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross loan opening	2637.39	2987.39	3826.12	3826.12
Cumulative Repayment upto previous year	0.00	38.83	295.80	584.40
Net Loan-Opening	2637.39	2948.55	3530.32	3241.72
Additions during the year	350.00	838.73	0.00	0.00
Repayment during the year	38.83	256.97	288.60	288.60
Net Loan-Closing	2948.55	3530.32	3241.72	2953.12
Average Loan	2792.97	3239.44	3386.02	3097.42
Rate of Interest (%)	8.9342%	8.9310%	8.9198%	8.9026%
Interest	45.68	289.32	302.03	275.75

Asset IV

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross loan opening	2332.61	3801.59	3801.59	3801.59
Cumulative Repayment upto previous year	0.00	231.35	518.10	804.84
Net Loan-Opening	2332.61	3570.24	3283.49	2996.75
Additions during the year	1468.99	0.00	0.00	0.00



Particulars	2015-16	2016-17	2017-18	2018-19
Repayment during the year	231.35	286.75	286.75	286.75
Net Loan-Closing	3570.24	3283.49	2996.75	2710.00
Average Loan	2951.42	3426.87	3140.12	2853.37
Rate of Interest (%)	8.8584%	8.8557%	8.8562%	8.8743%
Interest	261.45	303.47	278.09	253.22

Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	2247.78	2751.06	2862.65	2862.65	2862.65
Cumulative Repayment upto previous year	0.00	188.53	400.24	616.16	832.09
Net Loan-Opening	2247.78	2562.53	2462.41	2246.49	2030.56
Additions during the year	503.28	111.59	0.00	0.00	0.00
Repayment during the year	188.53	211.71	215.92	215.92	215.92
Net Loan-Closing	2562.53	2462.41	2246.49	2030.56	1814.64
Average Loan	2405.16	2512.47	2354.45	2138.53	1922.60
Rate of Interest (%)	7.9879%	8.0896%	8.0746%	8.0409%	7.9692%
Interest	192.12	203.25	190.11	171.96	153.22

Return on Equity (“ROE”)

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

xxx

xxx”

“25. Tax on Return on Equity:



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

Rate of pre-tax return on equity = Base rate / (1-t)

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

17. 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.

18. 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.

19. 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

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	16500.07	16745.40	17736.67	17736.67
Additional Capitalization	245.33	991.28	0.00	0.00
Closing Equity	16745.40	17736.67	17736.67	17736.67
Average Equity	16622.73	17241.04	17736.67	17736.67
Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500%
Tax rate for the year (%)	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax) (%)	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)	581.73	3,397.43	3,495.09	3,495.09

Asset II

Particulars	(₹ in lakh)			
	2015-16	2016-17	2017-18	2018-19
Opening Equity	770.53	1037.49	1037.49	1037.49
Additional Capitalization	266.96	-	-	-
Closing Equity	1037.49	1037.49	1037.49	1037.49
Average Equity	904.01	1037.49	1037.49	1037.49
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (%)	21.342%	21.342%	21.342%	21.342%



Particulars	2015-16	2016-17	2017-18	2018-19
Rate of Return on Equity (Pre Tax) (%)	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)	178.14	204.44	204.44	204.44

Asset III

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1130.31	1280.31	1639.77	1639.77
Additional Capitalization	150.00	359.46	-	-
Closing Equity	1280.31	1639.77	1639.77	1639.77
Average Equity	1205.31	1460.04	1639.77	1639.77
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (%)	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax) (%)	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)	43.48	287.71	323.12	323.12

Asset IV

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Opening Equity	999.69	1629.25	1629.25	1629.25
Additional Capitalization	629.57	-	-	-
Closing Equity	1629.25	1629.25	1629.25	1629.25
Average Equity	1314.47	1629.25	1629.25	1629.25
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (%)	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax) (%)	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)	259.02	321.05	321.05	321.05



Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	963.29	1178.98	1226.81	1226.81	1226.81
Additional Capitalization	215.69	47.83	0.00	0.00	0.00
Closing Equity	1178.98	1226.81	1226.81	1226.81	1226.81
Average Equity	1071.14	1202.90	1226.81	1226.81	1226.81
Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year (%)	20.961%	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)	210.05	237.04	241.75	241.75	241.75

Depreciation

20. 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."



21. 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 pumpedStorage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”

22. The petitioner has claimed depreciation considering the following:-

Asset I

Capital expenditure of ₹56168.86 lakh as on COD with additional capitalization of ₹553.42 lakh and ₹2400 lakh for the 2014-19 tariff period.

Asset II

Capital expenditure of ₹2759.91 lakh as on COD with additional capitalization of ₹889.87 lakh for the 2014-19 tariff period.

Asset III

Capital expenditure of ₹4169.27 lakh as on COD with additional capitalization of ₹500.00 lakh and ₹1198.19 lakh for the 2014-19 tariff period.

Asset IV

Capital expenditure of ₹3569.60 lakh as on COD with additional capitalization of ₹2098.55 lakh for the 2014-19 tariff period.



Asset V

Capital expenditure of ₹3299.98 lakh as on COD with additional capitalization of ₹630.06 lakh, ₹66.70 and ₹92.72 lakh for the 2014-19 tariff period.

23. As regards Asset I, we have computed depreciation considering capital expenditure of ₹55000.25 lakh and additional capitalization of ₹ 817.78 lakh and ₹3304.25 lakh for 2015-16 and 2016-17 respectively. As regards Asset II, we have computed depreciation considering capital expenditure of ₹2591.71 lakh and additional capitalization of ₹889.87 lakh for 2015-16. As regards Asset III, we have computed depreciation considering capital expenditure of ₹3807.72 lakh and additional capitalization of ₹500.00 lakh and ₹1198.19 lakh for 2015-16 and 2016-17 respectively. As regards Asset IV, we have computed depreciation considering capital expenditure of ₹3360.11 lakh and additional capitalization of ₹2098.55 lakh for 2015-16. As regards Asset V, we have computed depreciation considering capital expenditure of ₹3211.07 lakh and additional capitalization of ₹718.97 lakh, ₹66.70 lakh and ₹92.72 lakh for 2014-15, 2015-16 and 2016-17 respectively.

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



Asset I

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross block	55000.25	55818.03	59122.28	59122.28
Additional Capitalization	817.78	3304.25	0.00	0.00
Closing Gross block	55818.03	59122.28	59122.28	59122.28
Average Gross block	55409.14	57470.16	59122.28	59122.28
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	49868.23	51723.14	53210.05	53210.05
Weighted Balance Useful life of the assets	34.00	33.00	32.00	31.00
Elapsed Life of the assets at beginning of the year	0.00	1.00	2.00	3.00
Remaining Depreciable Value	49868.23	51203.57	49656.05	46534.40
Depreciation	519.57	3034.42	3121.66	3121.66
Depreciation upto previous year	0.00	519.57	3554.00	6675.65
Cumulative depreciation	519.57	3554.00	6675.65	9797.31

Asset II

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross block	2568.43	3458.30	3458.30	3458.30
Additional Capitalization	889.87	-	-	-
Closing Gross block	3458.30	3458.30	3458.30	3458.30
Average Gross block	3013.37	3458.30	3458.30	3458.30
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	2712.03	3112.47	3112.47	3112.47
Weighted Balance Useful life of the assets	25.00	24.00	23.00	22.00
Elapsed Life of the assets at beginning of the year	-	1.00	2.00	3.00
Remaining Depreciable Value	2712.03	2953.36	2770.77	2588.17
Depreciation	159.11	182.60	182.60	182.60
Depreciation upto previous year	0.00	159.11	341.70	524.30
Cumulative depreciation	159.11	341.70	524.30	706.90



Asset III

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross block	3767.70	4267.70	5465.89	5465.89
Additional Capitalization	500.00	1,198.19	-	-
Closing Gross block	4267.70	5465.89	5465.89	5465.89
Average Gross block	4017.70	4866.79	5465.89	5465.89
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	3615.93	4380.11	4919.30	4919.30
Weighted Balance Useful life of the assets	25.00	24.00	23.00	22.00
Elapsed Life of the assets at beginning of the year	-	1.00	2.00	3.00
Remaining Depreciable Value	3615.93	4341.28	4623.50	4334.90
Depreciation	38.83	256.97	288.60	288.60
Depreciation upto previous year	0.00	38.83	295.80	584.40
Cumulative depreciation	38.83	295.80	584.40	873.00

Asset IV

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Opening Gross block	3332.29	5430.84	5430.84	5430.84
Additional Capitalization	2,098.55	-	-	-
Closing Gross block	5430.84	5430.84	5430.84	5430.84
Average Gross block	4381.57	5430.84	5430.84	5430.84
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	3943.41	4887.76	4887.76	4887.76
Weighted Balance Useful life of the assets	25.00	24.00	23.00	22.00
Elapsed Life of the assets at beginning of the year	-	1.00	2.00	3.00
Remaining Depreciable Value	3943.41	4656.41	4369.66	4082.92
Depreciation	231.35	286.75	286.75	286.75
Depreciation upto previous	0.00	231.35	518.10	804.84



Particulars	2015-16	2016-17	2017-18	2018-19
year				
Cumulative depreciation	231.35	518.10	804.84	1091.59

Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	3211.07	3930.04	4089.46	4089.46	4089.46
Additional Capitalization	718.97	159.42	-	-	-
Closing Gross block	3930.04	4089.46	4089.46	4089.46	4089.46
Average Gross block	3570.56	4009.75	4089.46	4089.46	4089.46
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	3213.50	3608.78	3680.51	3680.51	3680.51
Weighted Balance Useful life of the assets	33.00	32.00	31.00	30.00	29.00
Elapsed Life of the assets at beginning of the year	-	1.00	2.00	3.00	4.00
Remaining Depreciable Value	3213.50	3420.25	3280.27	3064.35	2848.43
Depreciation	188.53	211.71	215.92	215.92	215.92
Depreciation upto previous year	0.00	188.53	400.24	616.16	832.09
Cumulative depreciation	188.53	400.24	616.16	832.09	1048.01

Operation & Maintenance Expenses ("O&M Expenses")

25. The instant petition covers the following:-

Asset I

Two 765 kV bays, one 192.65 km AC S/C (Bundle Conductor- 4 sub-c) 765 kV line, and one 77.9 km AC D/C Bundled (4 or more sun c) 765 kV line.

Asset II

One 765 kV bay



Asset III

One 765 kV and one 400 kV bay

Asset IV

One 765 kV and one 400 kV bay

Asset V

Two 400 kV bays, and one 17.39kms AC D/C (2 sub-c) 400 kV line

26. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses for the bays and lines covered in the instant petition:-

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Norm (₹ lakh/bay)					
765 kV	84.42	87.22	90.12	93.11	96.20
400 kV	60.30	62.30	64.37	66.51	68.71
Norm (₹ lakh/km)					
S/C (Bundle Conductor- 4 sub-c)	0.61	0.63	0.65	0.67	0.69
D/C Bundled (4 or more sun c)	1.06	1.10	1.13	1.17	1.21
D/C Twin/Triple Conductor	0.71	0.73	0.76	0.78	0.81

25. 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	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I	-	67.61 (pro-rata)	393.15	406.32	419.78
Asset-II	-	87.22	90.12	93.11	96.20



Asset-III	-	27.37 (pro-rata)	154.49	159.62	164.91
Asset-IV	-	149.52	154.49	159.62	164.91
Asset-V	132.89	137.31	141.87	146.58	151.44

26. 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.

27. 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”)

28. 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).

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

Asset I

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	5.63	32.75	33.85	34.97
Maintenance Spares	10.14	58.97	60.95	62.97
Receivables	302.68	1740.21	1744.26	1699.16
Total	318.45	1831.93	1839.05	1797.09
Rate of Interest (%)	13.500%	13.500%	13.500%	13.500%
Interest	42.99	247.31	248.27	242.61

Asset II

Particulars	(₹ in lakh)			
	2015-16	2016-17	2017-18	2018-19
O & M Expenses	7.27	7.51	7.76	8.01
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	101.72	112.69	110.63	108.59
Total	122.07	133.72	132.35	131.04
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%
Interest	16.48	18.05	17.87	17.69



Asset III

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	2.28	12.87	13.30	13.74
Maintenance Spares	4.11	23.17	23.94	24.74
Receivables	26.64	169.37	183.87	180.32
Total	33.02	205.41	221.11	218.79
Rate of Interest (%)	13.500%	13.500%	13.500%	13.500%
Interest	4.46	27.73	29.85	29.54

Asset IV

(₹ in lakh)

Particulars	2015-16	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	154.48	182.55	179.12	175.81
Total	189.37	218.59	216.36	214.28
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%
Interest	25.57	29.51	29.21	28.93

Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O & M Expenses	11.07	11.44	11.82	12.21	12.61
Maintenance Spares	19.93	20.60	21.28	21.99	22.72
Receivables	124.09	135.31	135.40	133.13	130.79
Total	155.10	167.35	168.50	167.33	166.12
Rate of Interest (%)	13.500%	13.500%	13.500%	13.500%	13.500%
Interest	20.94	22.59	22.75	22.59	22.43



Annual Transmission Charges

30. 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

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	55000.25	55818.03	59122.28	59122.28
Additional Capitalization	817.78	3304.25	0.00	0.00
Closing Gross Block	55818.03	59122.28	59122.28	59122.28
Average Gross Block	55409.14	57470.16	59122.28	59122.28
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	49868.23	51723.14	53210.05	53210.05
Elapsed Life of the assets at beginning of the year	34.00	33.00	32.00	31.00
Weighted Balance Useful life of the assets	0.00	1.00	2.00	3.00
Remaining Depreciable Value	49868.23	51203.57	49656.05	46534.40
Depreciation	519.57	3034.42	3121.66	3121.66
Depreciation upto previous year	0.00	519.57	3554.00	6675.65
Cumulative depreciation	519.57	3554.00	6675.65	9797.31
Interest on Loan				
Gross Normative Loan	38500.19	39072.63	41385.61	41385.61
Cumulative Repayment upto Previous Year	0.00	519.57	3554.00	6675.65
Net Loan-Opening	38500.19	38553.06	37831.61	34709.95
Additions	572.45	2312.98	0.00	0.00
Repayment during the year	519.57	3034.42	3121.66	3121.66
Net Loan-Closing	38553.06	37831.61	34709.95	31588.29
Average Loan	38526.62	38192.33	36270.78	33149.12
Weighted Average Rate of Interest on Loan (%)	8.8303%	8.8211%	8.8067%	8.7962%
Interest	604.18	3369.00	3194.26	2915.87
Return on Equity				
Opening Equity	16500.07	16745.40	17736.67	17736.67
Additions	245.33	991.28	0.00	0.00
Closing Equity	16745.40	17736.67	17736.67	17736.67
Average Equity	16622.73	17241.04	17736.67	17736.67
Return on Equity (Base Rate) (%)	15.500%	15.500%	15.500%	15.500%



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
MAT Rate for the year 2013-14(%)	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (%)	19.705%	19.705%	19.705%	19.705%
Return on Equity (Pre Tax)	581.73	3397.43	3495.09	3495.09
Interest on Working Capital				
O & M Expenses	5.63	32.75	33.85	34.97
Maintenance Spares	10.14	58.97	60.95	62.97
Receivables	302.68	1740.22	1744.27	1699.17
Total	318.45	1831.94	1839.06	1797.10
Interest Rate (%)	13.500%	13.500%	13.500%	13.500%
Interest	42.99	247.31	248.27	242.61
Annual Transmission Charges				
Depreciation	519.57	3034.42	3121.66	3121.66
Interest on Loan	604.19	3369.01	3194.27	2915.88
Return on Equity	581.72	3397.35	3495.01	3495.01
Interest on Working Capital	42.99	247.31	248.27	242.61
O & M Expenses	67.61	393.15	406.32	419.78
Total	1816.08	10441.24	10465.54	10194.93

Asset II

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	2568.43	3458.30	3458.30	3458.30
Additional Capitalisation	889.87	0.00	0.00	0.00
Closing Gross Block	3458.30	3458.30	3458.30	3458.30
Average Gross Block	3013.37	3458.30	3458.30	3458.30
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	2712.03	3112.47	3112.47	3112.47
Balance useful life of the asset	25.00	24.00	23.00	22.00
Elapsed life	0.00	1.00	2.00	3.00
Remaining Depreciable Value	2712.03	2953.36	2770.77	2588.17
Depreciation during the year	159.11	182.60	182.60	182.60
Depreciation upto previous year	0.00	159.11	341.70	524.30
Cumulative depreciation	159.11	341.70	524.30	706.90
Interest on Loan				
Gross Normative Loan	1797.90	2420.81	2420.81	2420.81
Cumulative Repayment upto Previous Year	0.00	159.11	341.70	524.30
Net Loan-Opening	1797.90	2261.70	2079.11	1896.51



Particulars	2015-16	2016-17	2017-18	2018-19
Additions	622.91	0.00	0.00	0.00
Repayment during the year	159.11	182.60	182.60	182.60
Net Loan-Closing	2261.70	2079.11	1896.51	1713.91
Average Loan	2029.80	2170.41	1987.81	1805.21
Weighted Average Rate of Interest on Loan (%)	8.3430%	8.3365%	8.3387%	8.3443%
Interest on Loan	169.35	180.93	165.76	150.63
Return on Equity				
Opening Equity	770.53	1037.49	1037.49	1037.49
Additions	266.96	0.00	0.00	0.00
Closing Equity	1037.49	1037.49	1037.49	1037.49
Average Equity	904.01	1037.49	1037.49	1037.49
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	178.14	204.44	204.44	204.44
Interest on Working Capital				
O & M expenses	7.27	7.51	7.76	8.01
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	101.72	112.69	110.63	108.59
Total	122.07	133.72	132.35	131.04
Rate of Interest	13.500%	13.500%	13.500%	13.500%
Interest on Working Capital	16.48	18.05	17.87	17.69
Annual Transmission Charges				
Depreciation	159.11	182.60	182.60	182.60
Interest on Loan	169.35	180.93	165.76	150.63
Return on Equity	178.14	204.44	204.44	204.44
Interest on Working Capital	16.48	18.05	17.87	17.69
O & M Expenses	87.22	90.12	93.11	96.20
Total	610.29	676.15	663.78	651.56

Asset III

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	3767.70	4267.70	5465.89	5465.89
Additional Capitalisation	500.00	1198.19	0.00	0.00



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Closing Gross Block	4267.70	5465.89	5465.89	5465.89
Average Gross Block	4017.70	4866.79	5465.89	5465.89
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	3615.93	4380.11	4919.30	4919.30
Balance useful life of the asset	25.00	24.00	23.00	22.00
Elapsed life	0.00	1.00	2.00	3.00
Remaining Depreciable Value	3615.93	4341.28	4623.50	4334.90
Depreciation during the year	38.83	256.97	288.60	288.60
Depreciation upto previous year	0.00	38.83	295.80	584.40
Cumulative depreciation (incl. of AAD)	38.83	295.80	584.40	873.00
Interest on Loan				
Gross Normative Loan	2637.39	2987.39	3826.12	3826.12
Cumulative Repayment upto Previous Year	0.00	38.83	295.80	584.40
Net Loan-Opening	2637.39	2948.55	3530.32	3241.72
Additions	350.00	838.73	0.00	0.00
Repayment during the year	38.83	256.97	288.60	288.60
Net Loan-Closing	2948.55	3530.32	3241.72	2953.12
Average Loan	2792.97	3239.44	3386.02	3097.42
Weighted Average Rate of Interest on Loan (%)	8.9342%	8.9310%	8.9198%	8.9026%
Interest on Loan	45.68	289.32	302.03	275.75
Return on Equity				
Opening Equity	1130.31	1280.31	1639.77	1639.77
Additions	150.00	359.46	0.00	0.00
Closing Equity	1280.31	1639.77	1639.77	1639.77
Average Equity	1205.31	1460.04	1639.77	1639.77
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	43.48	287.71	323.12	323.12
Interest on Working Capital				
O & M expenses	2.28	12.87	13.30	13.74
Maintenance Spares	4.11	23.17	23.94	24.74
Receivables	26.64	169.37	183.87	180.32
Total	33.02	205.41	221.11	218.79
Rate of Interest	13.500%	13.500%	13.500%	13.500%



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Working Capital	4.46	27.73	29.85	29.54
Annual Transmission Charges				
Depreciation	38.83	256.97	288.60	288.60
Interest on Loan	45.68	289.32	302.03	275.75
Return on Equity	43.48	287.71	323.12	323.12
Interest on Working Capital	4.46	27.73	29.85	29.54
O & M Expenses	27.37	154.49	159.62	164.91
Total	159.82	1016.21	1103.22	1081.92

Asset IV

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	3332.29	5430.84	5430.84	5430.84
Additional Capitalisation	2098.55	0.00	0.00	0.00
Closing Gross Block	5430.84	5430.84	5430.84	5430.84
Average Gross Block	4381.57	5430.84	5430.84	5430.84
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%
Depreciable Value	3943.41	4887.76	4887.76	4887.76
Balance useful life of the asset	25.00	24.00	23.00	22.00
Elapsed life	0.00	1.00	2.00	3.00
Remaining Depreciable Value	3943.41	4656.41	4369.66	4082.92
Depreciation during the year	231.35	286.75	286.75	286.75
Depreciation upto previous year	0.00	231.35	518.10	804.84
Cumulative depreciation	231.35	518.10	804.84	1091.59
Interest on Loan				
Gross Normative Loan	2332.61	3801.59	3801.59	3801.59
Cumulative Repayment upto Previous Year	0.00	231.35	518.10	804.84
Net Loan-Opening	2332.61	3570.24	3283.49	2996.75
Additions	1468.99	0.00	0.00	0.00
Repayment during the year	231.35	286.75	286.75	286.75
Net Loan-Closing	3570.24	3283.49	2996.75	2710.00
Average Loan	2951.42	3426.87	3140.12	2853.37
Weighted Average Rate of Interest on Loan (%)	8.8584%	8.8557%	8.8562%	8.8743%
Interest on Loan	261.45	303.47	278.09	253.22



Particulars	2015-16	2016-17	2017-18	2018-19
Return on Equity				
Opening Equity	999.69	1629.25	1629.25	1629.25
Additions	629.57	0.00	0.00	0.00
Closing Equity	1629.25	1629.25	1629.25	1629.25
Average Equity	1314.47	1629.25	1629.25	1629.25
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	259.02	321.05	321.05	321.05
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	154.48	182.55	179.12	175.81
Total	189.37	218.59	216.36	214.28
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	25.57	29.51	29.21	28.93
Annual Transmission Charges				
Depreciation	231.35	286.75	286.75	286.75
Interest on Loan	261.45	303.47	278.09	253.22
Return on Equity	259.02	321.05	321.05	321.05
Interest on Working Capital	25.57	29.51	29.21	28.93
O & M Expenses	149.52	154.49	159.62	164.91
Total	926.90	1095.27	1074.72	1054.85

Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	3211.07	3930.04	4089.46	4089.46	4089.46
Additional Capitalisation	718.97	159.42	0.00	0.00	0.00
Closing Gross Block	3930.04	4089.46	4089.46	4089.46	4089.46
Average Gross Block	3570.56	4009.75	4089.46	4089.46	4089.46
Rate of Depreciation (%)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable Value	3213.50	3608.78	3680.51	3680.51	3680.51
Balance useful life of the asset	33.00	32.00	31.00	30.00	29.00
Elapsed life	0.00	1.00	2.00	3.00	4.00
Remaining Depreciable Value	3213.50	3420.25	3280.27	3064.35	2848.43
Depreciation during the year	188.53	211.71	215.92	215.92	215.92



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation upto previous year	0.00	188.53	400.24	616.16	832.09
Cumulative depreciation	188.53	400.24	616.16	832.09	1048.01
Interest on Loan					
Gross Normative Loan	2247.78	2751.06	2862.65	2862.65	2862.65
Cumulative Repayment upto Previous Year	0.00	188.53	400.24	616.16	832.09
Net Loan-Opening	2247.78	2562.53	2462.41	2246.49	2030.56
Additions	503.28	111.59	0.00	0.00	0.00
Repayment during the year	188.53	211.71	215.92	215.92	215.92
Net Loan-Closing	2562.53	2462.41	2246.49	2030.56	1814.64
Average Loan	2405.16	2512.47	2354.45	2138.53	1922.60
Weighted Average Rate of Interest on Loan (%)	7.9879%	8.0896%	8.0746%	8.0409%	7.9692%
Interest on Loan	192.12	203.25	190.11	171.96	153.22
Return on Equity					
Opening Equity	963.29	1178.98	1226.81	1226.81	1226.81
Additions	215.69	47.83	0.00	0.00	0.00
Closing Equity	1178.98	1226.81	1226.81	1226.81	1226.81
Average Equity	1071.14	1202.90	1226.81	1226.81	1226.81
Return on Equity (Base Rate)(%)	15.500%	15.500%	15.500%	15.500%	15.500%
MAT rate for the respective year (%)	20.961%	21.342%	21.342%	21.342%	21.342%
Rate of Return on Equity (%)	19.610%	19.705%	19.705%	19.705%	19.705%
Return on Equity	210.05	237.04	241.75	241.75	241.75
Interest on Working Capital					
O & M expenses	11.07	11.44	11.82	12.21	12.61
Maintenance Spares	19.93	20.60	21.28	21.99	22.72
Receivables	124.09	135.32	135.40	133.13	130.79
Total	155.10	167.36	168.50	167.33	166.12
Rate of Interest	13.500%	13.500%	13.500%	13.500%	13.500%
Interest on Working Capital	20.94	22.59	22.75	22.59	22.43
Annual Transmission Charges					
Depreciation	188.53	211.71	215.92	215.92	215.92
Interest on Loan	192.12	203.25	190.11	171.96	153.22
Return on Equity	210.05	237.04	241.75	241.75	241.75
Interest on Working Capital	20.94	22.59	22.75	22.59	22.43
O & M Expenses	132.89	137.31	141.87	146.58	151.44
Total	744.54	811.90	812.40	798.80	784.75



Filing Fee and Publication Expenses

31. 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

32. 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.

Foreign Exchange Rate Variation

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

Service Tax

33. 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

34. 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.

35. This order disposes of Petition No. 252/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**Asset I**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIV-DOCO-loan	8.84	549.35	0.00	549.35
BOND XXXV-DOCO loan 1-	9.64	336.31	0.00	336.31
BOND XXXIV-DOCO loan 2-	9.35	1057.20	0.00	1057.20
BOND XXXVII-DOCO loan 4-	9.25	5880.23	0.00	5880.23
BOND XXXVIII-DOCO loan 3-	9.25	556.67	0.00	556.67
BOND XXXIX-DOCO loan 5-	9.40	2238.46	0.00	2238.46
SBI (21.03.2012)- DOCO loan 6-	9.55	3166.86	0.00	3166.86
BOND XL- DOCO loan 7	9.30	4742.25	0.00	4742.25
BOND XLI- DOCO loan 8	8.85	9963.16	0.00	9963.16
IFC (IFC- A LOAN) (31419-00)- DOCO loan 9-68.49	3.23	685.11	0.00	685.11
FC BOND (17.01.2013)- DOCO Loan 10-68.49	4.10	281.84	0.00	281.84
BOND- XLIII-DOCO Loan 11-	7.93	207.11	0.00	207.11
BOND- XLIV-DOCO Loan 12-	8.70	9.70	0.00	9.70
BOND- XLV-DOCO Loan 13-	9.65	150.00	0.00	150.00
BOND- XLVI-DOCO Loan 14-	9.30	100.00	0.00	100.00
BOND- XLVII-DOCO Loan 15-	8.93	173.36	0.00	173.36
BOND- XLVIII-DOCO Loan 16-	8.20	2454.82	0.00	2454.82
Proposed Loan 2015-16 (8.40%)- DOCO Loan 17	8.40	5947.75	0.00	5947.75
Total		38500.18	0.00	38500.18



Asset II

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIV- DOCO loan-	8.84	285.00	0.00	285.00
BOND XLIII-DOCO Loan 1-	7.93	1080.00	0.00	1080.00
BOND XLV- DOCO Loan 2	9.65	45.00	0.00	45.00
BOND- XLVII-DOCO loan 3	8.93	448.59	0.00	448.59
Total		1858.59	0.00	1858.59

Asset III

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIX-DOCO-loan	9.40	72.00	0.00	72.00
SBI (21.03.2012) DOCO loan 1-	9.55	100.00	0.00	100.00
BOND XL-DOCO loan 2-	9.30	540.00	0.00	540.00
BOND XLI-DOCO loan 3-	8.85	578.00	0.00	578.00
BOND XLIII-DOCO loan 4-	9.65	200.00	0.00	200.00
BOND XLV-DOCO loan 5-	9.65	200.00	0.00	200.00
BOND XLVI-DOCO loan 6-	9.30	200.00	0.00	200.00
BOND XLVII- DOCO loan 7	8.93	50.00	0.00	50.00
BOND XLVIII- DOCO loan 8	8.20	558.72	0.00	558.72
Proposed Loan 2015-16 (8.40%)- DOCO Loan 9	8.40	361.18	0.00	361.18
Total		2859.90	0.00	2859.90

Asset IV

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIV- DOCO loan-	8.84	125.00	0.00	125.00
BOND XXXIX-DOCO loan 1-	9.40	139.00	0.00	139.00
SBI (21.03.2012)- DOCO loan 2-	10.25	108.00	0.00	108.00
BOND- XLI-DOCO loan 3	8.85	200.00	0.00	200.00
BOND- XLIII- DOCO loan 4	7.93	378.07	0.00	378.07



Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND- XLIV- DOCO loan 5-	8.70	860.00	0.00	860.00
BOND XLVI- DOCO loan 10	9.30	601.03	0.00	601.03
Total		2411.10	0.00	2411.10

Asset V

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
SBI (21.03.2012)- DOCO Loan-	10.25	80.00	0.00	80.00
BOND XL-DOCO loan 1-	9.30	160.00	0.00	160.00
BOND XLI-DOCO loan 2-	8.85	776.00	0.00	776.00
FC- BOND (17.01.2013)- DOCO loan 3-60.61	4.10	440.03	0.00	440.03
BOND XLIII-DOCO loan 4-	7.93	250.00	0.00	250.00
BOND XLV-ADDCAP for 2014-15 add cap loan 4	8.70	12.24	0.00	12.24
BOND XLIV-DOCO loan 6-	8.70	541.75	0.00	541.75
BOND XLV-ADDCAP for 2014-2015 Add cap loan	9.65	57.59	0.00	57.59
BOND XLV-ADDCAP for 2014-2015 Add cap loan 5	9.65	50.00	0.00	50
BOND XLVI-ADDCAP for 2014-2015 Add cap loan 1	9.30	28.48	0.00	28.48
BOND XLVII-ADDCAP for 2014-2015 Add cap loan 2	8.93	354.97	0.00	354.97
Total		2247.78	0.00	2247.78



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

Asset I

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	38,500.18	38,500.18	38,500.18	38,500.18
Cumulative Repayment of loan upto previous year	609.61	609.61	2,757.27	5,003.20
Net Loan Opening	37890.57	37890.57	35742.91	33496.98
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	2,147.66	2,245.93	2,263.61
Net Loan Closing	37890.57	35742.91	33496.98	31233.37
Average Loan	37890.57	36816.74	34619.95	32365.18
Rate of Interest	8.8303%	8.8211%	8.8067%	8.7962%
Interest	3345.86	3247.66	3048.87	2846.91

Asset II

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	1858.59	1858.59	1858.59	1858.59
Cumulative Repayment of loan upto previous year	23.75	47.50	71.25	188.75
Net Loan Opening	1834.84	1811.09	1787.34	1669.84
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	23.75	23.75	117.50	154.88
Net Loan Closing	1811.09	1787.34	1669.84	1514.96
Average Loan	1822.97	1799.22	1728.59	1592.40
Rate of Interest	8.3430%	8.3365%	8.3387%	8.3443%
Interest	152.09	149.99	144.14	132.87

Asset III

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2,859.90	2,859.90	2,859.90	2,859.90
Cumulative Repayment of loan upto previous year	0.00	0.00	102.26	237.86



Particulars	2015-16	2016-17	2017-18	2018-19
Net Loan Opening	2859.90	2859.90	2757.64	2622.04
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	102.26	135.60	139.77
Net Loan Closing	2859.90	2757.64	2622.04	2482.27
Average Loan	2859.90	2808.77	2689.84	2552.16
Rate of Interest	8.9342%	8.9310%	8.9198%	8.9026%
Interest	255.51	250.85	239.93	227.21

Asset IV

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2411.10	2411.10	2411.10	2411.10
Cumulative Repayment of loan upto previous year	10.42	20.84	57.75	126.17
Net Loan Opening	2400.68	2390.26	2353.35	2284.93
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	10.42	36.91	68.42	355.09
Net Loan Closing	2390.26	2353.35	2284.93	1929.84
Average Loan	2395.47	2371.81	2319.14	2107.39
Rate of Interest	8.8584%	8.8557%	8.8562%	8.8743%
Interest	212.20	210.04	205.39	187.01

Asset V

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2247.78	2751.06	2751.06	2751.06	2751.06
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	85.27	200.34
Net Loan Opening	2247.78	2751.06	2751.06	2665.79	2550.72
Additions during the year	503.28	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	85.27	115.07	329.31
Net Loan Closing	2751.06	2751.06	2665.79	2550.72	2221.41
Average Loan	2499.42	2751.06	2708.43	2608.26	2386.07
Rate of Interest	7.9879%	8.0896%	8.0746%	8.0409%	7.9692%
Interest	199.65	222.55	218.70	209.73	190.15

