# CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

### **Petition No. 513/TT/2019**

Coram:

Shri P.K. Pujari, Chairperson Shri I.S. Jha, Member

Date of Order: 06.05.2020

#### In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, truing-up of transmission tariff of 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of Asset-I: 132/33 kV, 50MVA, 3-Ph ICT-I at 132/33 kV Nirjuli Sub-station (POWERGRID), Asset-II: 132/33 kV, 50MVA, 3-Ph ICT-II at 132/33 kV Nirjuli Sub-station (POWERGRID) and Asset-III: 400/220 kV, 315 MVA, 3-Ph ICT-II (2<sup>nd</sup> ICT) along with associated bays at 400/220 kV Balipura Sub-station (POWERGRID) under "North Eastern Region Strengthening Scheme-II (NERSS-II) Part-A" in North-Eastern Region.

#### And in the matter of:

Power Grid Corporation of India Limited, "Saudamini", Plot No. 2, Sector 29, Gurgaon-122001 Haryana

....Petitioner

#### Vs

- Assam Electricity Grid Corporation Limited (Formerly Assam State Electricity Board) Bijulee Bhawan, Paltan Bazar, Guwahati – 781001, Assam
- Meghalaya Energy Corporation Limited (Formerly Meghalaya State Electricity Board) Short Round Road, "Lumjingshai" Shillong – 793001, Meghalaya
- 3. Government of Arunachal Pradesh Itanagar, Arunachal Pradesh



- Power and Electricity Department Government of Mizoram Aizawl, Mizoram
- Manipur State Electricity Distribution Company Limited (Formerly Electricity Department, Government of Manipur) Keishampat, Imphal
- 6. Department of Power Government of Nagaland Kohima, Nagaland
- 7. Tripura State Electricity Corporation Limited Vidyut Bhawan, North Banamalipur, Agartala–799001, Tripura

...Respondents

For Petitioner : Shri S.S. Raju, PGCIL

Shri Zafrul Hasan, PGCIL Shri B. Dash, PGCIL Shri V.K. Singh, PGCIL Shri Amit K. Jain, PGCIL Shri Anshul Garg, PGCIL

For Respondents : None

### **ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. ("the Petitioner") for truing up of the transmission tariff of Asset-I: 132/33 kV, 50MVA, 3-Ph ICT-I at 132/33 kV Nirjuli Sub-station (POWERGRID), Asset-II: 132/33 kV, 50MVA, 3-Ph ICT-II at 132/33 kV Nirjuli Sub-station (POWERGRID) and Asset-III: 400/220 kV, 315 MVA, 3-Ph ICT-II (2nd ICT) along with associated bays at 400/220 kV Balipura Sub-station (POWERGRID), under "North Eastern Region Strengthening Scheme-II (NERSS-II) Part-A" in North-Eastern Region (hereinafter referred to as "transmission assets") for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") and

tariff determination of 2019-24 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as "the 2019 Tariff Regulations").

- 2. The Petitioner has made the following prayers in this petition:-
  - "1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 11.2 and 12.1 above.
  - 2) Allow the claimed Capital Cost, actual Additional Capitalization incurred during 2014-19 and projected Add-Cap during 2019-24.
  - 3) Allow the Petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 11.2 and 12.1 above for respective block.
  - 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.
  - 5) Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the beneficiaries in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.
  - 6) Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.
  - 7) Allow the Petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 12.1 above.
  - 8) Allow the Petitioner to claim the capital spares at the end of tariff block as per actual.
  - 9) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the beneficiaries, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries."
- 3. The Respondents are the distribution licensees, who are procuring



transmission services from the Petitioner, mainly beneficiaries of North- Eastern Region.

### **Background**

4. The Investment Approval (IA) and expenditure sanction for the transmission project was accorded by the Board of Directors of the Petitioner vide Memorandum No. C/CP/NERSS-II Part A dated 26.11.2014 with an estimated cost of ₹2871 lakh including an IDC of ₹180 lakh based on August, 2014 price level. The Petitioner, vide its affidavit dated 14.6.2016, in Petition No. 22/TT/2016 had submitted re-apportioned approved capital cost for Assets-I, II and III. Further, the Petitioner has submitted that the contingency amount for the entire project was included in the Asset-III. The Petitioner has clarified vide its affidavit dated 25.2.2020 that this contingency amount has been re-allocated to Assets-I and II. Details of apportioned approved capital cost as claimed by the Petitioner is as under:

(₹ in lakh)

Assets	FR Apportioned Approved capital cost as per FR	Revised Apportioned Approved capital cost as per affidavit 14.6.2016	Revised apportionment in the instant petition
Asset-I	363.6	352.93	384.93
Asset-II	363.6	374.26	395.60
Asset-III	2143.84	2143.84	2090.50
Total	2871.04	2871.03	2871.03

The scope of the project "North Eastern Region Strengthening Scheme-II (NERSS-II) Part-A" is as under:-

Asset I: 132/33 kV, 50MVA, 3-Ph ICT-I at 132/33 kV Nirjuli Substation (POWERGRID);

- ii. Asset II: 132/33 kV, 50MVA, 3-Ph ICT-II at 132/33 kV Nirjuli Substation (POWERGRID); and
- iii. Asset III: 400/220 kV, 315 MVA, 3-Ph ICT-II (2<sup>nd</sup> ICT) along with associated bays at 400/220 kV Balipara Sub-station (POWERGRID)
- 5. The project was scheduled to be put into commercial operation on or before 26.5.2017 as per the Investment Approval.

### **Date of Commercial Operation ("COD")**

6. The details of commercial operation of transmission elements covered under the instant transmission system are as under:-

Assets	COD	Remark
Asset-I	14.2.2016	Covered in the order in Petition.
Asset-II	29.3.2016	No. 22/TT/2016
Asset-III	28.5.2016	140. 22/11/2010
Combined Assets	5.5.2016	

7. The Petitioner has served the petition on the Respondents and notice of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act 2003 (hereinafter referred to as "the Act"). No comments or suggestions have been received from the general public in response to the notices published in the newspapers by the Petitioner. The hearing in this matter was held on 26.2.2020. 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.

- 8. Regulation 8(1) of the 2014 Tariff Regulations requires the Commission to undertake truing up exercise together with the tariff petition filed for the next tariff period with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up.
- 9. The Petitioner has filed the instant petition on 31.10.2019, for true-up of tariff of the 2014-19 tariff period in accordance with Regulation 8 of the 2014 Tariff Regulations.

### Truing-up of Annual Fixed Charges for 2014-19 tariff period

10. The details of the transmission charges claimed by the Petitioner are as under:-

(₹ in lakh)

Asset-I								
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19				
Depreciation	1.26	13.56	18.15	19.01				
Interest on Loan	1.59	15.27	17.54	16.63				
Return on Equity	1.41	15.18	20.33	21.34				
Interest on working capital	0.10	1.01	1.29	1.31				
O & M Expenses	0.00	0.00	0.00	0.00				
Total	4.36	45.02	57.31	58.29				

Asset-II								
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19				
Depreciation	0.10	13.75	16.76	19.23				
Interest on Loan	0.12	16.42	16.56	17.14				
Return on Equity	0.11	15.61	19.08	21.91				
Interest on working capital	0.01	1.05	1.21	1.34				
O & M Expenses	0.00	0.00	0.00	0.00				
Total	0.34	46.83	53.61	59.62				

Asset-III								
Particulars		2016-17 (Pro-rata)	2017-18	2018-19				
Depreciation		70.57	98.49	101.20				
Interest on Loan		73.61	94.62	89.19				
Return on Equity		79.01	110.27	113.60				
Interest on working capital		9.70	12.53	12.74				
O & M Expenses		92.34	113.06	116.81				
	Total	325.23	428.97	433.54				

11. The details of the Interest on Working Capital claimed by the Petitioner are as under:

(₹ in lakh)

Asset-I								
Particular	2015-16 (Pro-rata)	2016-17	2017-18	2018-19				
O & M Expenses	0.00	0.00	0.00	0.00				
Maintenance Spares	0.00	0.00	0.00	0.00				
Receivables	5.66	7.51	9.55	9.72				
Total	5.66	7.51	9.55	9.72				
Rate of Interest (%)	13.50	13.50	13.50	13.50				
Interest on Working Capital	0.10	1.01	1.29	1.31				

(₹ in lakh)

Asset-II								
Particular	2015-16 (Pro-rata)	2016-17	2017-18	2018-19				
O & M Expenses	0.00	0.00	0.00	0.00				
Maintenance Spares	0.00	0.00	0.00	0.00				
Receivables	6.83	7.81	8.94	9.94				
Total	6.83	7.81	8.94	9.94				
Rate of Interest (%)	13.50	13.50	13.50	13.50				
Interest on Working Capital	0.01	1.05	1.21	1.34				

Asset-III							
Particular	2016-17 (Pro-rata)	2017-18	2018-19				
O & M Expenses	9.12	9.42	9.73				
Maintenance Spares	16.41	16.96	17.52				
Receivables	64.23	71.50	72.26				
Total	89.77	97.88	99.51				
Rate of Interest (%)	12.80	12.80	12.80				
Interest on Working Capital	9.70	12.53	12.74				

### **Capital Cost**

12. The details of apportioned approved capital cost, capital cost as on COD, Additional Capital Expenditure incurred upto 31.3.2019 and projected Additional Capital Expenditure incurred upto 31.3.2019 claimed by the Petitioner for assets covered in the instant petition are as under:-

	FR Appor-	Revised apportion-	Capital	Additional capitalisation (claimed)				Total completion
Assets	tioned Approved Capital Cost	ment in the instant petition	cost as on COD	2015-16	2016-17	2017-18	2018-19	cost as on 31.3.2019 (claimed)
Asset-I	363.6	384.93	190.09	0	137.49	32.49	0	360.07
Asset-II	363.6	395.60	198.98	55.3	21.71	93.62	0	369.61
Asset-III	2143.84	2090.50	1360.77	0	456.11	98.68	2.11	1917.67
Total	2871.03	2871.03	1749.84	55.3	615.31	224.79	2.11	2647.35

- 13. The Commission vide orders dated 27.6.2016 in Petition No. 22/TT/2016 allowed the capital cost of ₹340.36 lakh, ₹372.34 lakh and ₹1850.07 lakh for Asset-I, II and III respectively while determining of tariff for 2014-19 period.
- 14. The Petitioner vide affidavit dated 25.2.2020 has submitted that at the FR stage, the contingency amount for the entire project was captured only under the cost of Asset-III. However, in the instant petition, the same has now been apportioned among all three assets. Accordingly, FR apportionment of capital cost was revised with regard to the apportionment in Petition No. 22/TT/2016. Further, the overall completion cost of the project is within the approved (FR) project cost.

- 15. The Petitioner vide Auditor Certificate dated 23.7.2019 has submitted the capital cost incurred upto COD, Additional Capital Expenditure upto 31.3.2019 and estimated Additional Capital Expenditure from 1.4.2019 to 31.3.2020.
- 16. The Petitioner has claimed capital cost of ₹186.09 lakh, ₹198.46 lakh and ₹1352.45 lakh for Asset-I, II and III respectively as on COD after adjusting the accrued IDC. The capital cost as on COD also includes the cost of IDC, IEDC and initial spares.

# **Interest During Construction (IDC)**

- 17. The Petitioner has claimed Interest During Construction (IDC) for the instant assets and has submitted the Auditor's Certificates in support of the same. The Petitioner has submitted computation of IDC along with the year-wise details of the IDC discharged.
- 18. The allowable IDC has been worked out considering the information submitted by the Petitioner for the individual assets separately on cash basis. The loan details submitted in Form-9C for period 2014-19 and the IDC computation sheet have been considered for the purpose of IDC calculation on cash and accrued basis. The undischarged IDC as on COD has been considered as ACE (additional capital expenditure) during the year in which it has been discharged.
- 19. Accordingly, based on the information furnished by the Petitioner, the IDC considered is summarized as under:-

Assets	IDC as per Auditor's Certificate	Admis-	•	charged	IDC Un- discharg ed as on COD	IDC Dis- charged in 2016-17	IDC Dis- charged in 2017-18
_	1		_				
Α	B	С	D=B-C	E	F=C-E	G	Н
Asset-I	<b>B</b> 4.00	0.00	<b>D=B-C</b> 4.00	<b>E</b> 0.00	<b>F=C-E</b> 0.00	<b>G</b> 0.00	<b>H</b> 0.00
l							

# **Incidental Expenditure During Construction (IEDC)**

20. The Petitioner has claimed IEDC of ₹14.64 lakh, ₹11.52 lakh and ₹57.41 lakh for Asset-I, II and III respectively and submitted Auditor's certificate in support of the same. The Petitioner has also submitted that entire IEDC has been discharged as on COD in respect of the instant assets. The IEDC claimed is within the percentage of 10.75% of Hard Cost as indicated in the Abstract Cost Estimate, in respect of the instant assets. Hence, the IEDC claimed has been allowed.

### **Initial spares**

21. The Petitioner has claimed initial spares of the instant assets and submitted Auditor certificate in support of the same. The details of initial spares claimed by the Petitioner are as follows:-.

Asset	Plant & Machinery Cost upto cut-off date (excluding IDC and IEDC)	Initial Spares Claimed
Asset-I	341.43	3.22
Asset-II	341.77	3.81
Asset-III	1850.61	74.43
TOTAL	2533.81	81.46

22. We have considered the submissions made by the Petitioner. The initial spares are allowable subject to ceiling limit specified in Regulation 13(d) of the 2014 Tariff Regulations. The Petitioner's claim of initial spares is within the ceiling limit specified in Regulation 13(d) of the 2014 Tariff Regulations and hence allowed. The details of the initial spares allowed are as under:-.

Assets	Plant & Machinery Cost upto cut-off date (excluding IDC and IEDC) (₹ in lakh)	Initial Spares Claimed (₹ in Iakh)	Ceiling Limit (%)	Initial Spares as per ceiling limit (₹ in lakh)	Initial Spares Allowed as on COD (₹ in lakh)
Asset-I	341.43	3.22	6.0	21.59	3.22
Asset-II	341.77	3.81	6.0	22.47	3.81
Asset-III	1850.61	74.43	6.0	113.37	74.43
TOTAL	2533.81	81.46	6.0	157.43	81.46

### Capital cost as on COD

23. Accordingly, the capital cost allowed as on COD is summarized as under:-

(₹ in lakh)

Assets	Capital cost as on		Less: IDC as on COD due to	
	COD as per Auditor Certificate	Computa- tional difference		as on COD
	1	2	3	4=1-2-3
Asset-I	190.09	4.00	0.00	186.09
Asset-II	198.98	1.65	0.54	196.79
Asset-III	1360.77	1.66	6.33	1352.78

## <u>Additional Capital Expenditure (ACE)</u>

24. The Petitioner has claimed Additional Capital Expenditure for the assets covered under the instant petition as shown below:-

	Additional capitalisation (claimed)						
Assets	2015-16	2016-17	2017-18	2018-19			
Asset-I	0.00	137.49	32.49	0.00			
Asset-II	55.30	21.71	93.62	0.00			
Asset-III	0.00	456.11	98.68	2.11			
Total	55.30	615.31	224.79	2.11			

- 25. The Petitioner vide affidavit dated 25.2.2020 has submitted that the Additional Capitalization in the instant assets is on account of undischarged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date. The Additional Capitalization for the year 2015-16, 2016-17, 2017-18 and 2018-19 for assets has been claimed under Regulation 14(1)(i) (Undischarged liabilities) of 2014 Tariff Regulations.
- 26. The Petitioner vide affidavit dated 25.2.2020 has also submitted that Additional Capital Expenditure upto 31.3.2019 has been considered in the Auditor certificate as per actuals, whereas Additional Capital Expenditure claimed for the period 1.4.2019 to 31.3.2020 is on estimated basis and may vary after final claim/reconciliation at the time of closing of the contract. The contract wise details along with LOA no. for balance retention payments are as detailed below:-

Asset Parties		Package	LOA No.	Balance/ retention payments claimed as per Auditor Certificate			
No.				2015-16	2016-17	2017-18	2018-19
I	Toshiba Transmission & Distribution Systems (India) Pvt. Ltd.,	Ex-works Supply Contract and Service Contract for Sub-station Extension Package S3 for: i)		0.00	137.49	32.49	0.00

II	Telangana	400/220 kV, 315 MVA, 2nd ICT along with associated bays at Balipara Sub-	DTD.05/12/ 2014	55.30	21.71	93.62	0.00
III		station; ii) Replacement of existing 132/33 kV, 2X10 MVA ICT by 132/33 kV, 2X50 MVA ICTs at Nirjuli Sub- station		0.00	456.11	98.68	2.11

- 27. The Petitioner has claimed Additional Capitalization including the accrual IDC discharged during 2015-16 to 2018-19 period. It is observed that the total estimated completion cost including Additional Capitalization for 2015-16 to 2018-19 period is within the approved apportioned cost.
- 28. The cut-off date for Assets-I, II and III works out to be 31.3.2019. It is observed that Additional Capitalization claimed by the Petitioner in 2014-19 tariff period is within the cut-off date.
- 29. We have considered the submission of the Petitioner. The ACE claimed by the Petitioner is within approved apportioned capital cost and the same is considered for computation of total capital cost as on 31.3.2019. The ACE claimed for the period 2015-16 to 2018-19 is allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations. The details of ACE allowed is as follows:-

Cost as per revised approved apportionment: ₹384.93 lakh							
		Additional Capitalization			Total capital cost including		
Asset-I	Capital cost as on COD	2015-16	2016-17	2017-18	Additional Capitalization as on 31.3.2019		
Allowed earlier in order dated							
27.6.2016 in	186.09	150.27	4.00	0.00	340.36		

Petition No. 22/TT/2016					
As claimed	190.09	0	137.49	32.49	360.07
Approved in this order					
	186.09	0	137.49	32.49	356.07

Cost as per revised approved apportionment: ₹395.60 lakh							
	Capital cost	Additional Capitalization			Total capital cost including		
Asset-II	as on COD	2015-16	2016-17	2017-18	Additional Capitalization as on 31.3.2019		
Allowed earlier							
in order dated							
27.6.2016 in							
Petition No.							
22/TT/2016	198.46	55.30	118.58	0.00	372.34		
As claimed	198.98	55.30	21.71	93.62	369.61		
Approved in this order	196.79		22.25 (21.71 +				
		55.30	0.54**)	93.62	367.96		

<sup>\*\*</sup>IDC discharged

Cost as per revised approved apportionment: ₹2090.50 lakh						
		Additi	onal Capitaliz	Total capital cost		
Asset-III	Capital cost as on COD	2016-17	2017-18	2018-19	including Additional Capitalization as on 31.3.2019	
Allowed earlier						
in order dated						
27.6.2016 in						
Petition No.						
22/TT/2016	1350.69	493.01	6.37	0.00	1850.07	
As claimed	1360.77	456.11	98.68	2.11	1917.67	
Approved in this			105.01			
order	1352.78		105.01			
**!DO dia ah ana		456.11	(98.68 + 6.33**)	2.11	1916.01	

<sup>\*\*</sup>IDC discharged



30. The difference between the earlier allowed total capital cost including additional capitalization as on 31.3.2019 and that approved in this order is on account of increase in actual audited additional capital expenditure in respect of Asset-I and Asset-III and a decrease in actual audited additional capital expenditure in respect of Asset-II. The difference in claimed total capital cost including additional capitalization as on 31.3.2019 and approved in this order is on account of IDC disallowed partly in the instant order.

## **Debt-Equity Ratio**

31. The Petitioner has considered debt equity ratio as 70:30 as on COD and for Additional Capitalization post COD. The details of the debt-equity ratio of 70:30 has been considered as on COD and Additional Capitalization during 2014-19 period as provided under Regulation 19 of the 2014 Tariff Regulations. The same is summarised as under:-

Asset-I	As on	COD	As on 31.3.2019		
ASSEL-I	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)	
Debt	130.26	70.00	249.25	70.00	
Equity	55.83	30.00	106.82	30.00	
Total	186.09	100.00	356.07	100.00	

Asset-II	As on (	COD	As on 31.3.2019		
7.0001 11	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)	
Debt	137.76	70.00	257.59	70.00	
Equity	59.03	30.00	110.38	30.00	
Total	196.79	100.00	367.96	100.00	

Asset-III	As on (	COD	As on 31.3.2019		
A55et-III	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)	
Debt	946.94	70.00	1,341.21	70.00	
Equity	405.83	30.00	574.80	30.00	
Total	1,352.78	100.00	1,916.01	100.00	

# **Interest on Loan (IOL)**

- 32. The Petitioner has claimed the IOL based on actual interest rates for each year during the 2014-19 period. The Petitioner has prayed for change in interest rates prevailing as on 1.4.2019 for respective loans. We have considered the submissions of the Petitioner. The IOL has been calculated based on actual interest rates, in accordance with Regulation 26 of the 2014 Tariff Regulations.
- 33. The interest on loan has been worked out as detailed below: -
  - Gross amount of loan, repayment of instalments, rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition.
  - ii. The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period.
- 34. The details of the IOL allowed are as follows:-

Asset-I								
Particular	2015-16 (Pro-rata)	2016-17	2017-18	2018-19				
Gross Normative Loan	130.26	130.26	226.51	249.25				
Cumulative Repayments upto Previous Year	0.00	1.26	14.72	32.66				
Net Loan-Opening	130.26	129.00	211.79	216.59				
Additions due to Additional Capitalization	0.00	96.24	22.74	0.00				
Repayment during the year	1.26	13.46	17.94	18.80				
Net Loan-Closing	129.00	211.79	216.59	197.79				
Average Loan	129.63	170.40	214.19	207.19				



Weighted Average Rate of Interest on Loan (%)	9.550	8.888	8.089	7.935
Interest on Loan	1.59	15.14	17.33	16.44

Asset-II					
Particular	2015-16 (Pro-rata)	2016-17	2017-18	2018-19	
Gross Normative Loan	137.76	176.47	192.05	257.59	
Cumulative Repayments upto Previous Year	0.00	0.10	13.81	30.49	
Net Loan-Opening	137.76	176.37	178.24	227.10	
Additions due to Additional Capitalization	38.71	15.58	65.54	0.00	
Repayment during the year	0.10	13.72	16.68	19.15	
Net Loan-Closing	176.37	178.24	227.10	207.95	
Average Loan	157.07	177.31	202.67	217.53	
Weighted Average Rate of Interest on Loan (%)	9.550	9.227	8.129	7.844	
Interest on Loan	0.12	16.36	16.47	17.06	

(₹ in lakh)

Asset-III					
Particular	2016-17 (Pro-rata)	2017-18	2018-19		
Gross Normative Loan	946.94	1266.22	1339.73		
Cumulative Repayments upto Previous Year	0.00	70.43	168.71		
Net Loan-Opening	946.94	1195.79	1171.01		
Additions due to Additional Capitalization	319.28	73.51	1.48		
Repayment during the year	70.43	98.28	101.11		
Net Loan-Closing	1195.79	1171.01	1071.38		
Average Loan	1071.36	1183.40	1121.20		
Weighted Average Rate of Interest on Loan (%)	8.126	7.978	7.949		
Interest on Loan	73.47	94.41	89.12		

# **Return on Equity (RoE)**

35. The Petitioner is entitled to RoE for the instant assets in terms of Regulation 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed following effective tax rates for the 2014-19 tariff period:

Year	Claimed effective tax (%)	Grossed up ROE [Base Rate/(1-t)] (%)
2014-15	21.018	19.624
2015-16	21.382	19.715
2016-17	21.338	19.704

Year	Claimed effective tax (%)	Grossed up ROE [Base Rate/(1-t)] (%)
2017-18	21.337	19.704
2018-19	21.549	19.757

36. The Commission in order dated 27.4.2020 in Petition no. 274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner and the same is given in the table below. The same MAT rates are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations.

Year	MAT Rate (%)	Grossed up ROE [Base Rate/(1-t)] (%)
2014-15	20.9605	19.610
2015-16	21.342	19.705
2016-17	21.342	19.705
2017-18	21.342	19.705
2018-19	21.549	19.758

37. Accordingly, the RoE allowed for the instant assets is as follows:-

(₹ in lakh)

Asset-I					
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19	
Opening Equity	55.83	55.83	97.07	106.82	
Additions due to additional capitalization	0.00	41.25	9.75	0.00	
Closing Equity	55.83	97.07	106.82	106.82	
Average Equity	55.83	76.45	101.95	106.82	
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	
Tax Rate applicable (%)	21.342	21.342	21.342	21.549	
Rate of Return on Equity (pre-tax)	19.705	19.705	19.705	19.758	
Return on Equity (Pre-tax)	1.41	15.06	20.09	21.11	

Asset-II				
Particulars	2015-16 Pro-rata)	2016-17	2017-18	2018-19
Opening Equity	59.03	75.62	82.30	110.38
Additions due to additional capitalization	16.59	6.68	28.08	0.00
Closing Equity	75.62	82.30	110.38	110.38



Average Equity	67.33	78.96	96.34	110.38
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
Tax Rate applicable (%)	21.342	21.342	21.342	21.549
Rate of Return on Equity (pre-tax)	19.705	19.705	19.705	19.758
Return on Equity (Pre-tax)	0.11	15.56	18.98	21.81

Asset-III						
Particulars	2016-17 (Pro-rata)	2017-18	2018-19			
Opening Equity	405.83	542.67	574.17			
Additions due to additional capitalization	136.83	31.50	0.63			
Closing Equity	542.67	574.17	574.80			
Average Equity	474.25	558.42	574.49			
Return on Equity (Base Rate) (%)	15.500	15.500	15.500			
Tax Rate applicable (%)	21.342	21.342	21.549			
Rate of Return on Equity (pre-tax)	19.705	19.705	19.705			
Return on Equity (Pre-tax)	78.86	110.04	113.50			

### **Depreciation**

- 38. The Petitioner has claimed depreciation considering capital expenditure of ₹186.09 lakh, ₹196.79 lakh and 1352.45 lakh as on COD for Assets-I, II and III respectively and Additional Capitalization of ₹173.98 lakh (including IDC of ₹4 lakh), ₹172.82 lakh (including IDC of ₹2.19 lakh) and ₹565.22 lakh (including IDC of ₹8.32 lakh) for Assets-I, II and III respectively.
- 39. Depreciation has been calculated annually based on Straight Line Method and at rates specified in the 2014 Tariff Regulations. The depreciation for the 2014-19 tariff period has been trued up in accordance with the Regulation 27 of the 2014 Tariff Regulations based on the admitted capital expenditure as under:-

Asset-I					
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19	
Opening Gross Block	186.09	186.09	323.58	356.07	
Additional Capital Expenditure	0.00	137.49	32.49	0.00	
Closing Gross Block	186.09	323.58	356.07	356.07	
Average Gross Block	186.09	254.84	339.83	356.07	



Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	167.48	229.35	305.84	320.46
Remaining Depreciable Value	167.48	228.09	291.13	287.80
Depreciation	1.26	13.46	17.94	18.80

Asset-II					
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19	
Opening Gross Block	196.79	252.09	274.34	367.96	
Additional Capital Expenditure	55.30	22.25	93.62	0.00	
Closing Gross Block	252.09	274.34	367.96	367.96	
Average Gross Block	224.44	263.22	321.15	367.96	
Rate of Depreciation (%)	5.24	5.21	5.19	5.20	
Depreciable Value	202.00	236.89	289.04	331.16	
Remaining Depreciable Value	202.00	236.80	275.22	300.68	
Depreciation	0.10	13.72	16.68	19.15	

(₹ in lakh)

Asset-III			
Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Opening Gross Block	1352.78	1808.89	1913.90
Additional Capital Expenditure	456.11	105.01	2.11
Closing Gross Block	1808.89	1913.90	1916.01
Average Gross Block	1580.83	1861.39	1914.95
Rate of Depreciation (%)	5.28	5.28	5.28
Depreciable Value	1422.75	1675.25	1723.46
Remaining Depreciable Value	1422.75	1604.82	1554.74
Depreciation	70.43	98.28	101.11

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

40. The Petitioner has not claimed any O&M Expenses for Assets-I and II as the same was covered under project ATS of Kopili-Khandong (additional transmission Gohpur-Itanagar) in North Eastern Region. The Petitioner has submitted that the replaced 2x10MVA ICT shall be used as regional spares as discussed in NERPC. The Petitioner has claimed O&M Expenses for Asset-III as per the norms specified in Regulation 29(4)(a) of the 2014 Tariff Regulations and is allowed. The O&M Expenses allowed for Asset-III is given hereunder:-

Particulars	2016-17	2017-18	2018-19
Norm (₹ lakh/bay)			
400 kV Bay	64.37	66.51	68.71
220 kV Bay	45.06	46.55	48.10



Number of bays			
400 kV Bay	1	1	1
220 kV Bay	1	1	1
Total O&M Expenses	109.43	113.06	116.81
Pro-rata O&M Expenses	92.34	113.06	116.81

### **Interest of Working Capital (IWC)**

41. The Petitioner is entitled to claim interest on working capital as per Regulation 28(1)(c) of the 2014 Tariff Regulations as under:-

# (i) Maintenance spares:

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses.

### (ii) O & M Expenses:

O&M Expenses have been considered for one month of the allowed O&M Expenses.

# (iii) Receivables:

The receivables have been worked out on the basis of 2 months of annual transmission charges as worked out above.

# (iv) Rate of interest on working capital:

Rate of interest on working capital is considered on normative basis in accordance with Clause (3) of Regulation 28 of the 2014 Tariff Regulations.

42. The Interest on Working Capital allowed for the instant assets is as under:-

### (a) Asset I:

Asset-I						
Particulars 2015-16 (Pro-rata) 2016-17 2017-18 2018-19						
O & M Expenses	0.00	0.00	0.00	0.00		
Maintenance Spares	0.00	0.00	0.00	0.00		



Receivables	5.66	7.44	9.44	9.61
Total	5.66	7.44	9.44	9.61
Rate of Interest on Working Capital (%)	13.50	13.50	13.50	13.50
Interest on working capital	0.10	1.01	1.27	1.30

(₹ lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 27.6.2016 in Petition No.				
22/TT/2016	0.13	1.31	1.28	1.25
As claimed by the Petitioner	0.10	1.01	1.29	1.31
Allowed after Truing Up	0.10	1.01	1.27	1.30

# (b) Asset II:

(₹ in lakh)

Asset-II					
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19	
O & M Expenses	0.00	0.00	0.00	0.00	
Maintenance Spares	0.00	0.00	0.00	0.00	
Receivables	6.83	7.78	8.89	9.89	
Total	6.83	7.78	8.89	9.89	
Rate of Interest (%)	13.50	13.50	13.50	13.50	
Interest on working capital	0.01	1.05	1.20	1.34	

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated				
27.6.2016 in Petition No. 22/TT/2016	0.01	1.26	1.46	1.42
As claimed by the Petitioner	0.01	1.05	1.21	1.34
Allowed after Truing Up	0.01	1.05	1.20	1.34

# (c) Asset III:

(₹ in lakh)

Asset-III					
Particulars	2016-17 (Pro-rata)	2017-18	2018-19		
O & M Expenses	9.12	9.42	9.73		
Maintenance Spares	16.41	16.96	17.52		
Receivables	64.15	71.38	72.21		
Total	89.68	97.76	99.47		
Rate of Interest (%)	12.80	12.80	12.80		
Interest on working capital	9.69	12.51	12.73		
			/# :   a     \		

Particulars	2016-17	2017-18	2018-19
Allowed earlier in order dated 27.6.2016 in Petition			
No. 22/TT/2016	9.75	12.52	12.55
As claimed by the Petitioner	9.70	12.53	12.74
Allowed after Truing Up	9.69	12.51	12.73



# **Annual Transmission Charges 2014-19**

43. Accordingly, the annual transmission charges for Assets I, II and III after truing up for the 2014-19 tariff period are as under:-

# (a) Asset I:

(₹ in lakh)

	Asset-I					
Particulars	2015-16 (Pro-rata)	2016-17	2017-18	2018-19		
Depreciation	1.26	13.46	17.94	18.80		
Interest on Loan	1.59	15.14	17.33	16.44		
Return on Equity	1.41	15.06	20.09	21.11		
Int. on Working Capital	0.10	1.01	1.27	1.30		
Op. and Maintenance	0.00	0.00	0.00	0.00		
Total	4.36	44.67	56.63	57.64		

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated 27.6.2016 in Petition No. 22/TT/2016	5.83	58.09	56.88	55.34
As claimed by the Petitioner	4.36	45.03	57.31	58.30
Allowed after Truing Up	4.36	44.67	56.63	57.64

# (b) Asset II:

(₹ in lakh)

Asset-II							
Particulars	2015-16	2016-17	2017-18	2018-19			
	(Pro-rata)	2010-17	2017-10	2010-13			
Depreciation	0.10	13.72	16.68	19.15			
Interest on Loan	0.12	16.36	16.47	17.06			
Return on Equity	0.11	15.56	18.98	21.81			
Int. on Working Capital	0.01	1.05	1.20	1.34			
Op. and Maintenance	0.00	0.00	0.00	0.00			
Total	0.34	46.68	53.33	59.36			

Particulars	2015-16	2016-17	2017-18	2018-19
Allowed earlier in order dated				
27.6.2016 in Petition No. 22/TT/2016	0.34	56.08	64.98	63.11
As claimed by the Petitioner	0.34	46.84	53.61	59.62
Allowed after Truing Up	0.34	46.68	53.33	59.36



Asset-III						
Particulars	2016-17 (Pro-rata)	2017-18	2018-19			
Depreciation	70.43	98.28	101.11			
Interest on Loan	73.47	94.41	89.12			
Return on Equity	78.86	110.04	113.50			
Int. on Working Capital	9.69	12.51	12.73			
Op. and Maintenance	92.34	113.06	116.81			
Total	324.79	428.31	433.28			

Particulars	2016-17	2017-18	2018-19
Allowed earlier in order dated			
27.6.2016 in Petition No. 22/TT/2016	327.96	428.60	424.86
As claimed by the Petitioner	325.22	428.97	433.53
Allowed after Truing Up	324.79	428.31	433.28

44. The difference between the Annual Transmission Charges allowed earlier for Assets-I, II and III and allowed in this order is on account of decrease/increase in actual audited Additional Capital Expenditure. The difference between the Annual Transmission Charges claimed by the Petitioner and allowed after truing up is on account of part disallowance of IDC.

### **Determination of Annual Fixed Charges for 2019-24 tariff period**

- 45. The Petitioner has submitted the tariff forms combining the Assets-I, II and III wherein the COD has been achieved prior to 1.4.2019, as a single asset. Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, single tariff for the combined asset is allowed for the 2019-24 tariff period.
- 46. The Petitioner has claimed the following transmission charges for 2019-24 tariff period:-

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	141.43	143.38	143.38	143.38	143.38
Interest on Loan	114.62	105.23	94.54	83.98	72.28
Return on Equity	151.30	153.44	153.44	153.44	153.44
Interest on Working Capital	14.49	14.74	14.88	15.04	15.16
Operation and					
Maintenance	191.93	198.85	205.83	213.19	220.42
Total	613.77	615.64	612.07	609.03	604.68

47. The Petitioner has claimed the following 'Interest on Working Capital' for the 2019-24 tariff period:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M	15.99	16.57	17.15	17.77	18.37
expenses	13.33	10.57	17.13	17.77	10.57
Maintenance	28.79	29.83	30.87	31.98	33.06
Spares	20.19	29.03	30.67	31.90	33.00
Receivables	14.49	14.74	14.88	15.04	15.16
Total	120.25	122.30	89.80	124.83	125.77
Rate of	12.05	12.05	12.05	12.05	12.05
Interest (%)	12.00	12.00	12.00	12.00	12.00
Interest on	14.49	14.74	14.88	15.04	15.16
Working					
Capital					

# **Effective Date of Commercial Operation (E-COD)**

48. The Petitioner has submitted that E-COD of the combined assets works out to 5.5.2016, based on the trued up admitted capital cost and actual COD of all the assets. The E-COD has been worked out as shown below:-

Computation of Effective COD							
Assets	Actual COD	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Weight of the cost	No. of days from last COD	Weighted days	Effective COD (latest COD – Total weighted days)	
Asset-I	14.2.2016	356.07	0.135	104.00	14.03		
Asset-II	29.3.2016	367.96	0.139	60.00	8.36	5.5.2016	
Asset-III	28.5.2016	1,916.01	0.726	0.00	0.00	3.5.2010	
Total		2,640.04	1.00		22.39		

49. The E-COD has been used to determine the lapsed life of the project as a whole, which works out as 2 (two) years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD).

### Weighted Average Life (WAL)

- 50. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of Weighted Average Life.
- 51. The combined asset may have multiple elements (i.e. Land, Building, Transmission line, Sub-station and PLCC) and each element may have different span of life. Therefore, the concept of Weighted Average Life (WAL) has been used as the useful life of the project as whole.
- 52. The Weighted Average Life (WAL) has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in 2019 Tariff Regulations. The element wise life as it was defined in the 2014 Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose and the life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, the Weighted Average Life (WAL) of the combined asset has been worked out as 25 years as shown below:-

	Admitted Capital Cost as on 31.3.2019				
Particulars	Combined Cost	Life as per the 2019 Regulation (Years) (b)	Weight (a) x (b)		
Freehold Land	0.00	-	-		
Leasehold Land	0.00	25	0.00		
Building &	14.47	25	361.75		

	Admitted Capital Cost as on 31.3.2019					
Particulars	Combined Cost	Life as per the 2019 Regulation (Years) (b)	Weight (a) x (b)			
Other Civil Works						
Transmission Line	0.00	35	0.00			
Sub-Station Equipment	2,632.88	25	65,822.00			
PLCC	0.00	15	0.00			
IT Equipment and Software	0.00	6.67	0.00			
Total	2,647.35	25	66,183.75			
WAL = Total \ Capital cost of project		25 years				

53. It is assumed that the Weighted Average Life as on 1.4.2019 as determined above is applicable prospectively (i.e. for 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. Accordingly, the WAL has been used to determine the remaining useful life as on 31.3.2019 to be 23 years.

### **Capital Cost**

- 54. Regulation 19(3) and 19(5) of the 2019 Tariff Regulation provide as follows:-
  - "19. Capital Cost:
  - (3) The Capital cost of an existing project shall include the following:
    - (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
    - (b) Additional Capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
    - (c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;
    - (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;



- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.
- (5) The following shall be excluded from the capital cost of the existing and new projects:
  - (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
  - (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no decapitalization of the concerned assets.

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment."
- 55. The Petitioner has combined all the assets for claiming tariff during 2019-24 tariff period and accordingly the capital cost of all the assets as on 31.3.2019 after combining is ₹2640.04 lakh, as was worked out by the Commission and the same has been considered as opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff



Regulations. The capital cost of the individual assets has been added to arrive at the capital cost claimed during 2019-24 period for consolidated assets as per following details:-

	Capital	Ad	Total completion			
Assets	cost as on COD	2015-16	2016-17	2017-18	2018-19	cost as on 31.3.2019
Asset-I	186.09	0.00	137.49	32.49	0.00	356.07
Asset-II	196.79	55.30	22.25	93.62	0.00	367.96
Asset-III	1352.78	-	456.11	105.01	2.11	1916.01
Total	1735.66	55.30	615.85	231.12	2.11	2640.04

56. The capital cost has been dealt in line with clause (3) of Regulation 19 of the 2019 Tariff Regulations. The element wise capital cost (i.e. Land, Building, Transmission Line, Substation and PLCC) as admitted by the Commission as on 31.3.2019 for instant assets are clubbed together and the combined capital cost has been considered as capital cost for combined asset as on 1.4.2019, as per following details:-

(₹ in lakh)

			( · · · · · · · · · · · · · · · · · · ·
Element	Asset-I	Asset-II	Asset-III
Free hold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	0.00	14.43	0.00
Transmission Line	0.00	0.00	0.00
Sub-Station Equipment	356.07	353.53	1916.01
PLCC	0.00	0.00	0.00
IT Equipment and Software	0.00	0.00	0.00
Total	356.07	367.96	1916.01

Particulars	Combined Cost as on 1.4.2019
Freehold Land	0.00
Leasehold Land	0.00
Building & Other Civil Works	14.43
Transmission Line	0.00
Sub-Station Equipment	2625.61
PLCC	0.00
IT Equipment and Software	0.00
TOTAL	2640.04

57. The trued-up capital cost of ₹2640.04 lakh for combined asset is considered as admitted capital cost as on 1.4.2019 for working out tariff for 2019-24 tariff period.

### **Additional Capital Expenditure (ACE)**

- 58. Regulation 24 of the 2019 Tariff Regulations provides as under:-
  - "24. Additional Capitalization within the original scope and upto the cut-off date
  - (1) The Additional Capital Expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:
    - (a) Undischarged liabilities recognized to be payable at a future date;
    - (b) Works deferred for execution;
    - (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;
    - (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;
    - (e) Change in law or compliance of any existing law; and
    - (f) Force Majeure events:

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of decapitalization.

- (2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution."
- 59. The Petitioner has claimed projected ACE for 2019-24 period and has submitted Auditor Certificate in support of the same. The details of the projected Additional Capitalization as per Auditor's Certificate are shown as under:-

(₹ in lakh)

Assets	Projected Add Cap 2019-24 2019-20
Asset-I	12.28
Asset-II	18.94
Asset-III	44.64
Total	75.86

60. The Petitioner, vide affidavit dated 25.2.2020, has submitted that Additional Capital Expenditure claimed for the period 1.4.2019 to 31.3.2020 is on estimated basis and may vary due to final claim/reconciliation at the time of contract closing. The ACE in 2019-24 period is claimed under Regulation 25(1)(d) of the 2019 Tariff Regulations. The contract-wise details along with LoA no. for balance retention payments are as detailed below:-

Assets	Parties	Package	LOA No.	Balance/ retention payments claimed as per Auditor Certificate (₹ in lakh) 2019-20
Asset-I	Toshiba	Ex-works Supply Contract and Service Contract for Sub-station Extension Package S3	00 00/200	12.28
Asset-II	Transmission & Distribution Systems (India) Pvt. Ltd., Telangana	for: i) 400/220 kV, 315 MVA, 2nd ICT along with associated bays at Balipara Sub-station; ii) Replacement of existing	CC-CS/398- NER/SS-2330/3/ G10/NOA-I/5126 & 5127 DTD.05/12/2014	18.94
Asset-III	<b>Q</b>	132/33kV, 2X10 MVA ICT by 132/33 kV, 2X50 MVA ICTs at Nirjuli Sub- station		44.64

61. We have considered the submissions of the Petitioner. The cut-off date in case of the instant assets is 31.3.2019. The Petitioner has claimed projected Additional Capitalization during the year 2019-20, which is after the cut-off date of 31.3.2019, to meet the liability for works executed prior to the cut-off date under Regulation 25(1)(d) of the 2019 Tariff Regulations. It is observed that the contract with Toshiba Transmission & Distribution Systems (India) Pvt. Ltd. has not been closed and hence the Petitioner has made a provision to meet the expenditure at the time of finalising and closing the contract. Therefore, the Petitioner's claim of projected additional capitalisation during 2019-20 is allowed under Regulation 25(1)(d) of the 2019 Tarff Regulations. However, the Petitioner

is directed to submit details of contract, scope, original liability and undischarged liability as on 31.3.2019 and the Regulation under which such Additional Capitalization is claimed at the time of true up of 2019-24 period. The Additional Capital Expenditure allowed is summarized below which is subject to true up:-

(₹ in lakh)

		( 111 141111)
Particulars	Regulation	Combined Asset
		2019-20
ACE to the extent of Balance &	• • • • • • • • • • • • • • • • • • • •	
Retention Payments & work deferred	2019 Tariff Regulations	75.86
for execution before cut-off date		

62. Against the overall approved capital cost (as per FR) of ₹2871.03 lakh, the estimated completion cost including additional capital expenditure is ₹2715.90 lakh. The individual cost of each asset is also within the respective FR apportioned cost. Therefore, there is no cost over-run as per FR.

### **Capital Cost for the Tariff Period 2019-24**

63. Accordingly, the capital cost of the combined asset, considered for the tariff period 2019-24, subject to truing up, is as follows:-

		(₹ in lakh)
Capital Cost allowed as on 1.4.2019	ACE allowed for the year 2019-20	Total Estimated Completion Cost up to 31.3.2024
2640.04	75.86	2715.90

### **Debt-Equity Ratio**

- 64. Clause (3), (4) and (5) of Regulation 18 of the 2019 Tariff Regulations provide as under:-
  - "18. Debt-Equity Ratio: (3). In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:



Provided that in case of a generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30%shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

- (4). In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.
- (5). Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as Additional Capital Expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation."
- 65. The details of the debt equity considered for the purpose of computation of tariff for 2019-24 tariff period is as follows:-

Combined Asset	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Capital Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	1,848.04	70.00	1,901.15	70.00
Equity	792.00	30.00	814.76	30.00
Total	2,640.04	100.00	2,715.90	100.00

### Return on Equity

- 66. Regulation 30 of the 2019 Tariff Regulations provides as under:-
  - "30. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.
  - (2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-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:

Provided that return on equity in respect of Additional Capitalization after cut-off date beyond the original scope excluding Additional Capitalization due to Change in Law, shall be computed at the weighted average rate of



interest on actual loan portfolio of the generating station or the transmission system;

#### Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues:

iii. in case of a thermal generating station, with effect from 1.4.2020:

- a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
- b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019."

67. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, the MAT rate applicable during the 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance Clause (3) of Regulation 31 of the 2019 Tariff Regulations. The ROE allowed for the instant transmission assets under Regulation 30 of the 2019 Tariff Regulations is as under:-

Combined Asset						
Particulars 2019-20 2020-21 2021-22 2022-23 2023-2						
Opening Equity	792.00	814.76	814.76	814.76	814.76	
Addition due to Additional						
Capitalization	22.76	0.00	0.00	0.00	0.00	
Closing Equity	814.76	814.76	814.76	814.76	814.76	
Average Equity	803.38	814.76	814.76	814.76	814.76	

Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-					
tax)	18.782	18.782	18.782	18.782	18.782
Return on Equity (Pre-tax)	150.89	153.02	153.02	153.02	153.02

### **Interest on Loan ("IOL")**

- 68. Regulation 32 of the 2019 Tariff Regulations provides as under:-
  - "32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.
  - (2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.
  - (3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.
  - (4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year. (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.
- (7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing".
- 69. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest



rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. In view of above, the IOL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. The IOL allowed is follows:-

(₹ in lakh)

Combined Asset									
Particular	2019-20	2020-21	201-22	2022-23	2023-24				
Gross Normative Loan	1848.04	1901.15	1901.15	1901.15	1901.15				
Cumulative Repayments									
upto Previous Year	370.92	511.97	654.96	797.95	940.94				
Net Loan-Opening	1477.12	1389.17	1246.18	1103.19	960.20				
Addition due to Additional									
Capitalization	53.10	0.00	0.00	0.00	0.00				
Repayment during the year	141.05	142.99	142.99	142.99	142.99				
Net Loan-Closing	1389.17	1246.18	1103.19	960.20	817.21				
Average Loan	1433.15	1317.68	1174.69	1031.70	888.71				
Weighted Average Rate of									
Interest on Loan (%)	7.977	7.966	8.027	8.120	8.113				
Interest on Loan	114.32	104.96	94.30	83.77	72.10				

### **Depreciation**

- 70. Regulation 33(1), (2) and (5) of the 2019 Tariff Regulations provide as under:-
  - "33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(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 a 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-I 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."

71. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the instant combined asset is as follows:-

(₹ in lakh)

Combined Asset							
Particulars	2019-20	2020-21	201-22	2022-23	2023-24		
Opening Gross Block	2640.04	2715.90	2715.90	2715.90	2715.90		
Additional Capital Expenditure	75.86	0.00	0.00	0.00	0.00		
Closing Gross Block	2715.90	2715.90	2715.90	2715.90	2715.90		
Average Gross Block	2677.97	2715.90	2715.90	2715.90	2715.90		
Rate of Depreciation (%)	5.27	5.26	5.26	5.26	5.26		
Depreciable Value	2410.17	2444.31	2444.31	2444.31	2444.31		
Remaining Depreciable Value	2039.25	1932.34	1789.35	1646.36	1503.37		
Depreciation	141.05	142.99	142.99	142.99	142.99		

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

- 72. Regulation 35(3)(a) of the 2019 Tariff Regulations provides that:
  - "(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24	
Norms for sub-station Bays (₹ Lakh per bay)						
765 kV	45.01	46.60	48.23	49.93	51.68	
400 kV	32.15	33.28	34.45	35.66	36.91	
220 kV	22.51	23.30	24.12	24.96	25.84	
132 kV and below	16.08	16.64	17.23	17.83	18.46	
Norms for Transformers (₹	Lakh per M	VA)				
765 kV	0.491	0.508	0.526	0.545	0.564	
400 kV	0.358	0.371	0.384	0.398	0.411	
220 kV	0.245	0.254	0.263	0.272	0.282	
132 kV and below	0.245	0.254	0.263	0.272	0.282	



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for AC and HVDC lii	ı nes (₹ Lakh	per km)			
Single Circuit (Bundled Conductor with six or	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per	834	864	894	925	958
Gazuwaka HVDC Back- to-Back station (₹ Lakh	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath- Agra HVDC bipole	2,563	2,653	2,746	2,842	2,942

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

#### Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed prorata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW)shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);



- iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW)shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.
- (b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.
- (c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

- (4) Communication system: The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up."
- 73. The O&M Expenses claimed by the petitioner for the instant assets are as follows:-

Particulars	2019-20	2020-21	201-22	2022-23	2023-24
O&M for bays (as per norms)					
400 kV Bay	32.15	33.28	34.45	35.66	36.91
220 kV Bay	22.51	23.30	24.12	24.96	25.84
O&M for transformers (as					
per norms)					
400 kV	112.77	116.87	120.96	125.37	129.47
132 kV & below	24.50	25.40	26.30	27.20	28.20
Total O&M Expenses	191.93	198.85	205.83	213.19	220.42



74. We have considered the submissions of the Petitioner. The O&M Expenses claimed by the petitioner are within norms and allowed as claimed by the Petitioner.

### **Interest on Working Capital ("IWC")**

- 75. Regulation 34(1)(c), (3) and (4) and Regulation 3(7) of the 2019 Tariff Regulations specifies as follows:
  - "34. Interest on Working Capital: (1) The working capital shall cover:
  - (c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:
  - (i) Receivables equivalent to 45 days of annual fixed cost;
  - (ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
  - (iii) Operation and maintenance expenses, including security expenses for one month.
  - (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.

- (4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency."
- "3. **Definition** In these regulations, unless the context otherwise requires:-
- (7) 'Bank Rate' means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;"
- 76. The Petitioner has claimed interest on working capital for 2019-24 period considering the bank rate as on 1.4.2019.
- 77. The interest on working capital is worked out in accordance with Regulation
- 34 of the 2019 Tariff Regulations. The rate of interest on working capital



considered is 12.05%. The components of the working capital and interest thereon have been worked as follows:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	15.99	16.57	17.15	17.77	18.37
Maintenance Spares	28.79	29.83	30.87	31.98	33.06
Receivables	75.33	75.77	75.33	74.96	74.22
Total Working Capital	120.11	122.16	123.36	124.70	125.65
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest of working capital	14.47	14.72	14.86	15.03	15.14

### **Annual Transmission Charges**

78. The detailed computation of the various components of the annual fixed charges for the combined transmission asset for the tariff period 2019-24 is summarized below:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	141.05	142.99	142.99	142.99	142.99
Interest on Loan	114.32	104.96	94.30	83.77	72.10
Return on Equity	150.89	153.02	153.02	153.02	153.02
Interest on Working Capital	14.47	14.72	14.86	15.03	15.14
Operation and Maintenance	191.93	198.85	205.83	213.19	220.42
Total	612.66	614.54	611.01	608.00	603.67

### Filing Fee and Publication Expenses

79. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 70(1) of the 2019 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 Regulation 70(1) of the 2019 Tariff Regulations.

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

80. 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 (3) and (4) of Regulation 70 of the 2019 Tariff Regulations.

### **Goods and Services Tax**

81. The Petitioner has sought to recover GST on transmission charges separately from the Respondents, if at any time GST on transmission is withdrawn from negative list in future. We have considered the submission of the Petitioner. GST is not levied on transmission service at present and we are of the view that Petitioner's prayer is premature.

### **Security Expenses**

82. The Petitioner has submitted that security expenses for the instant assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential Interest on Working Capital. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 shall be filed on an yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as the

audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis. We have considered the submissions of the Petitioner. Any application filed by the Petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2019 Tariff Regulations.

### **Capital Spares**

83. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

### **Sharing of Transmission Charges**

- 84. The billing, collection and disbursement of the transmission charges approved in this order 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 2014 Tariff Regulations for the 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.
- 85. This order disposes of Petition No. 513/TT/2019.

sd/-(I.S. Jha) Member sd/-

(P. K. Pujari)

Chairperson