

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 164/TT/2022

Coram:

**Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri P. K. Singh, Member**

Date of order : 21.02.2023

In the matter of:

Approval under Sub-section (4) of Section 28 and Section 79(1)(d) of the Electricity Act, 2003 and Regulation, 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for (i) truing up of fees and charges for 2014-19 tariff period and (ii) determination of fees and charges for 2019-24 tariff period in respect of Transmission Assets (2 Nos.) under the scheme "Fibre Optic Communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links in North Eastern Region."

And

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for (i) truing up of transmission tariff for 2014-19 tariff period and (ii) determination of transmission tariff for 2019-24 tariff period in respect of Assets (4 Nos.) under "Fibre Optic Communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links in the North Eastern Region."

And in the matter of:

Power Grid Corporation of India Limited,
SAUDAMINI, Plot No-2,
Sector-29, Gurgaon-122001 (Haryana).

.....Petitioner

Versus

1. Assam Electricity Grid Corporation Limited,
(Formerly Assam State Electricity Board),
Bijulee Bhawan, Paltan Bazaar,
Guwahati-781001, Assam.
2. Meghalaya Energy Corporation Limited,
(Formerly Meghalaya State Electricity Board),



Short Round Road, "Lumjingshai"
Shillong-793001, Meghalaya.

3. Government of Arunachal Pradesh,
Itanagar, Arunachal Pradesh.
4. Power and Electricity Department,
Government of Mizoram,
Aizawl, Mizoram.
5. Manipur State Power Distribution Corporation 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, Tripura (W)-799001.

...Respondent(s)

For Petitioner : Shri S. S. Raju, PGCIL
Shri D. K. Biswal, PGCIL
Shri Ved Rastogi, PGCIL
Shri A. K. Verma, PGCIL

For Respondents : None

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited under Section 28(4) and Section 79(1)(d) of Electricity Act, 2003 and Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for truing of fees and charges for the period from 1.4.2014 to 31.3.2019 and determination of fees and charges for 2019-24 tariff period in respect of **Asset-A1:** Fibre Optic Cable for ULDC Scheme in NER (37.874 km - Central Sector) and **Asset-A2:** Fibre Optics Cable for ULDC Scheme in NER (79.298 km - State Sector) under the scheme "Fibre Optic Communication system in lieu of existing Unified Load Despatch



and Communication (ULDC) Microwave links in the North Eastern Region” and for truing up of transmission tariff of 2014-19 tariff period and determination of transmission tariff for 2019-24 tariff period in respect of **Asset-B1:** Fibre Optic Cable for ULDC Scheme in NER (8.273 & 1.023 km - Central Sector), **Asset-B2:** Fibre Optics Cable for ULDC Scheme in NER (392.393 km - State Sector), **Asset-C1:** (i) 132 kV Badarpur-Kolasib (OPGW 106.759 km - Central Sector), (ii) 132 kV Kolasib-Aizwal (OPGW 65.33 km - Central Sector), (iii) 132 kV Silchar-Badarpur (OPGW 19.221 km - Central Sector), (iv) 132 kV Silchar-Srikona (OPGW 1.199 km - Central Sector) and **Asset-C2:** 4 Numbers of State Sector Links viz., (i) 220 kV BTPS – Agia (Approx. 65.727 km), (ii) 220 kV Agia – (with LILO at Mirza & Boko) – Sarusajai (Approx. 130.718 km), (iii) 132 kV Srikona – Pailapul (Approx. 33.287 km) and (iv) 132 kV Pailapul – Jiribam (Approx. 12.752 km) (all six assets hereinafter referred to as “transmission assets”) under “Fibre Optic Communication system in lieu of existing Unified Load Despatch and Communication (ULDC) Microwave links” (hereinafter referred to as “transmission project”) in North Eastern Region.

2. The Petitioner has made the following prayers in the instant Petition:

- “1) Approve the actual Additional Capitalisation expenditure incurred during 2014-19 tariff block, as claimed at para 11.40 above.
- 2) Approve the trued up Fee and Charges (Asset A1& Asset A2) & Transmission Tariff (Asset B1, Asset B2, Asset C1 and Asset C2) for 2014-19 block and Fee and Charges & transmission tariff for 2019-24 block for the assets covered under this petition as per para 12.0 and 13.0 respectively.
- 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 Hon’ble Commission as provided in Tariff Regulations, 2014 and Tariff Regulations, 2019.
- 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 claim the overall security expenses and consequential IOWC on that security expenses separately.*
- 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 withdrawn from negative list at any time 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.*

and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice."

Background

3. The brief facts of the case are as follows:

- a. The Investment Approval (IA) for the transmission project was accorded by Board of Directors of the Petitioner company in its 248th meeting held on 8.2.2011, communicated vide letter Reference No. C/CP/Fibre Optic in NER dated 15.2.2011 at an estimated cost of ₹3413 lakh, including IDC of ₹200 lakh (based on 3rd Quarter, 2010 price level).
- b. Revised Cost Estimate (RCE) for the transmission project was accorded by Board of Directors of the Petitioner company in its 379th meeting held on 12.9.2020 and communicated vide Memorandum No. C/CP/PA2021-07-0M-RCE007 dated 15.10.2020 at estimated cost of ₹5950 lakh including IDC of ₹700 lakh (at June, 2020 price level).
- c. The above transmission project was approved in the 7th NERPC meeting dated 23.2.2009 and 24.2.2009 and 8th NERPC meeting dated 11.1.2010 and 12.1.2010. During the 8th TCC and 8th NERPC held on 11.1.2010 and 12.1.2010, RPC recommended 377 km fibre optic network in Central sector and 759 km in AEGCL. However, the Petitioner has submitted 401 km under Central Sector.
- d. The Commission vide order dated 27.6.2016 in Petition No. 540/TT/2014 directed the Petitioner to clarify the length at the time of truing up. The relevant extract of the said order is as follows:



“3. During the 8th TCC and 8th NERPC held on 11th and 12th Janaury, 2010 RPC recommended 377 KMs fibre optic network in Central sector and 759 KM in AEGCL. However, the petitioner has submitted 401 KM under Central Sector. The petitioner is directed to clarify the length at the time of truing up.”

e. The broad scope of works is as follows:

- (i) Installation of OPGW Fibre Optic cable on the existing EHV transmission line of PGCIL and constituents, the estimated length of such cable is approximately 1160 km.
- (ii) The terminal equipment for communication based upon Synchronous Digital Hierarchy (SDH) technology to be installed in the sub-stations of constituents and PGCIL. The transmission project also involves installation of primary multiplexers at the new wide band nodes. To monitor the network, “Network Management System” (NMS) would also be required.
- (iii) The constituent-wise break-up of the scope of work is as follows:

Sl. No.	Utility	OPGW Cable (in km)	SDH (Nos.)	DCPS (Nos.)
1	Central Sector	401	13	13
2	AEGCL	759	11	11
	Total	1160	24	24

- f. The Petitioner filed Miscellaneous Petition under Section 28(4) of the Electricity Act, 2003 and Regulation 44 ("Power to Relax") of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (2009 Tariff Regulations) for fixation of tariff norms for recovery of cost of the assets (“Communication system” and SLDC System) to be retained/ to be installed by the Petitioner after formation of POSOCO for 2009-14 tariff period, vide Petition No. 68/2010. The Commission, vide order dated 8.12.2011 in Petition No. 68/2010 granted liberty to the Petitioner to approach the Commission for determination of tariff for fibre optic network being installed in lieu of microwave links for each of the regions separately.
- g. The status and details of the transmission assets covered in the instant petition is as follows:



Sector	Nomenclature in previous petition	Actual COD	Petition No.
Asset-A1- Fibre Optic Cable for ULDC Scheme in NER (37.874 km - Central Sector)	Central Portion (Asset-I)	1.4.2013	Order dated 9.10.2018 in Petition No. 214/TT/2017 and Review order dated 26.12.2019 in Petition No. 5/RP/2019 for 2014-19 tariff period
Asset-A2- Fibre Optics Cable for ULDC Scheme in NER (79.298 km - State Sector)	State Portion (Asset-II)	1.4.2013	
Asset-B1- Fibre Optics Cable for ULDC Scheme in NER (8.273 km and 1.023 km - Central Sector)	Asset-I	1.4.2014	Order dated 27.6.2016 in Petition No. 540/TT/2014 for 2014-19 tariff period)
Asset-B2- Fibre Optics Cable for ULDC Scheme in NER (392.393 km - State Sector)	Asset-II	1.4.2014	
Asset-C1- (i) 132 kV Badarpur-Kolasib (OPGW 106.759 km - Central Sector) (ii) 132 kV Kolasib-Aizwal (OPGW 65.33 km - Central Sector) (iii) 132 kV Silchar-Badarpur (OPGW 19.221 km - Central Sector) (iv) 132 kV Silchar-Srikona (OPGW 1.199 km - Central Sector)	Asset-1	1.4.2018	Order dated 31.1.2021 in Petition No.170/TT/2019 for 2014-19 tariff period)
Asset-C2- 4 Numbers of State Sector Links viz., (i) 220 kV BTPS – Agia (Approx. 65.727 km), (ii) 220 kV Agia – (with LILO at Mirza and Boko) – Sarusajai (Approx. 130.718 km), (iii) 132 kV Srikona – Pailapul (Approx. 33.287 km) and (iv) 132 kV Pailapul – Jiribam (Approx. 12.752 km)	Asset-2	31.12.2018	
11 Numbers of Central Sector Communication Links		17.7.2020	Separate Petition No. 192/TT/2022 under the 2019 Tariff Regulations
1 Number of Central Sector Communication Links		31.1.2021	

- h. The Commission vide order dated 9.10.2018 in Petition No. 214/TT/2017 trued up Fees and Charges for Asset-A1 and Asset-A2 [Central Portion (Asset-I) and State Portion (Asset-II) in the said Petition] for 2009-14 tariff period and determined fees and charges for 2014-19 tariff period. In the said order the Commission disallowed the Additional Capital Expenditure (ACE) for Asset-I and Asset-II (Asset-A1 and Asset-A2 in the instant order) after their cut-off date i.e.



31.3.2015 on the ground that there is no specific provision in the 2014 Tariff Regulations relating to ULDC and Communication System. The Commission further held that the fee and charges of the assets shall be shared by the users as per Regulation 26 of the Central Electricity Regulatory Commission (Fees and charges of Regional Load Despatch Centre and other related matters) Regulations, 2015. The Petitioner filed Review Petition against the said order being Review Petition No. 5/RP/2019 alongwith I.A. No. 34/IA/2019 (for condonation of delay in filing the Review Petition). The Commission vide order dated 26.12.2019 condoned the delay in filing the Review petition and allowed the Review Petition, wherein it was held as follows:

"7. Therefore, on reconsideration, we are of the view that additional capitalisation incurred and projected to be incurred during 2016-17 to 2018-19 is required to be allowed. Accordingly, additional capitalization of ₹80.94 lakh and ₹91.78 lakh for Central and State Portions respectively during 2016-17, 2017-18 and 2018-19 period are allowed and order dated 9.10.2018 is modified to that extent.

.....

9. We are of the view that the fees and charges allowed for the instant assets for the 2014-19 tariff period should be recovered as provided in Regulation 43(2) of the 2014 Tariff Regulations and governed under the 2010 Sharing Regulations. However, this aspect was not recorded in our order dated 9.10.2018 inadvertently, which is an error. Accordingly, it is clarified that the fees and charges allowed for the instant assets for the 2014-19 tariff period shall be recovered under the 2010 Sharing Regulations as provided in Regulation 43(2) of the 2014 Tariff Regulations.

....

11. The fees and charges allowed for the instant assets in order dated 9.10.2018 shall be revised, on account of allowing the additional capital expenditure during the 2014-19 period in this order, at the time of truing-up of the fees and charges of the 2014-19 period."

- i. The Commission vide order dated 15.4.2015 in Petition No. 540/TT/2014 approved the transmission tariff for Asset-B1 and Asset-B2 (Asset-I and Asset-II in the said order) from COD to 31.3.2019 subject to adjustment as per Regulations 7(7)(ii), (iii) and (iv) of the 2014 Tariff Regulations. Further, the Commission vide order dated 27.6.2016 in Petition No. 540/TT/2014 revised the transmission tariff of Asset-B1 and Asset-B2 (Asset-I and Asset-II in the said order) from COD to 31.3.2019.



- j. The Commission vide order dated 31.1.2021 in Petition No. 170/TT/2019 approved the transmission tariff for Asset-C1 and Asset-C2 (Asset-1 and Asset-2 in the said order) from COD to 31.3.2019.
- k. The details of scheduled date of commercial operation (SCOD), date of commercial operation (COD) and time over-run in case of the transmission assets and the petitions in which the transmission assets are covered are as follows:

Assets	Asset nomenclature in previous petition	Asset details	SCOD	COD	Time over-run
Order dated 9.10.2018 in Petition No. 214/TT/2017					
Asset-A1	Central Portion (Asset-I)	Fibre Optic Cable for ULDC Scheme in NER (37.874 km - Central Sector)	1.9.2013	1.4.2013	NIL
Asset-A2	State Portion (Asset-II)	Fibre Optics Cable for ULDC Scheme in NER (79.298 km - State Sector)			
Order dated 15.4.2015 and 27.6.2016 in Petition No. 540/TT/2014					
Asset-B1	Asset-I	Fibre Optics Cable for ULDC Scheme in NER (8.273 km & 1.023 km - Central Sector)	16.8.2013	1.4.2014	170 days (not condoned)
Asset-B2	Asset-II	Fibre Optics Cable for ULDC Scheme in NER (392.393 km - State Sector)			229 days (condoned)
Order dated 31.1.2021 in Petition No. 170/TT/2019					
Asset-C1	Asset-1	(i) 132 kV Badarpur-Kolasib (OPGW 106.759 km - Central Sector) (ii) 132 kV Kolasib-Aizwal (OPGW 65.33 km - Central Sector) (iii) 132 kV Silchar-Badarpur (OPGW 19.221 km - Central Sector) (iv) 132 kV Silchar-Srikona (OPGW 1.199 km - Central Sector)	8.8.2013	1.4.2018	1697 days (1048 days condoned and 649 days not condoned)
Asset-C2	Asset-2	4 Numbers of State Sector Links viz., (i) 220 kV BTPS – Agia (Approx. 65.727 km), (ii) 220 kV Agia – (with LILO		31.12.2018	1971 days (964 days condoned and 1008



		at Mirza & Boko) – Sarusajai (Approx. 130.718 km), (iii) 132 kV Srikona – Pailapul (Approx. 33.287 km) & (iv) 132 kV Pailapul – Jiribam (Approx. 12.752 km)			days not condoned)
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4. The Respondents are distribution licensees and power departments, which are procuring transmission service from the Petitioner, mainly beneficiaries of the North Eastern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. None of the Respondents have filed any reply in the matter.

6. This order is issued considering the submissions made by the Petitioner in the petition and affidavit dated 5.9.2022.

7. The hearing in this matter was held on 1.8.2022 through video conference and the order was reserved.

8. Having heard the representatives of the Petitioner and perused the material on record, we proceed to dispose of the petition.

TRUING UP OF ANNUAL FEES AND CHARGES AND ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD

9. As per the directions of the Commission vide order dated 8.12.2011 in Petition No. 68/2010, the scope of the 2014 Tariff Regulations has been widened to include the Communication System used for inter-State transmission of electricity. However, as per proviso (iii) of Regulation 6(1) of the 2014 Tariff Regulations, the tariff of the existing



Communication System forming part of the transmission system is to be determined as per the methodology followed prior to 1.4.2014. The said proviso (iii) of Regulation 6(1) of the 2014 Tariff Regulations provides as follows:

“(iii) the tariff of the existing communication system forming part of transmission system shall be as per the methodology followed by the Commission prior to 1.4.2014.”

10. Asset-A1 and Asset-A2 were put into commercial operation before 1.4.2014. Accordingly, as provided in proviso (iii) of Regulation 6(1) of the 2014 Tariff Regulations, we continue to allow levelised tariff for Asset-A1 and Asset-A2 as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No. 68/2010. In case of Asset-B1, Asset-B2, Asset-C1 and Asset-C2, the transmission charges for the 2014-19 tariff period are trued up in accordance with Regulation 8(1) read with Regulation 6(1) of the 2014 Tariff Regulations.

11. The details of the annual fees and charges claimed by the Petitioner in respect of Asset-A1 and Asset-A2 and the details of the transmission charges claimed by the Petitioner in respect of the Asset-B1, Asset-B2, Asset-C1 and Asset-C2 for 2014-19 tariff period are as follows:

(₹ in lakh)

Asset-A1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	6.10	6.10	6.10	6.09	6.09
O&M Expenses	38.49	36.18	54.56	45.81	14.89
Interest on Working Capital	2.27	2.14	3.15	2.67	0.96
Total	46.85	44.42	63.81	54.58	21.95

(₹ in lakh)

Asset-A2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	12.26	12.26	12.26	12.26	12.25
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.28	0.28	0.28	0.28	0.28
Total	12.55	12.55	12.54	12.54	12.54



(₹ in lakh)

Particulars	Asset-B1				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1.41	1.41	1.46	1.75	2.02
Interest on Loan	1.29	1.17	1.09	1.22	1.29
Return on Equity	1.31	1.31	1.37	1.64	1.89
O&M Expenses	11.97	11.26	17.00	15.16	4.94
Interest on Working Capital	0.75	0.71	1.03	0.94	0.39
Total	16.73	15.86	21.95	20.71	10.53

(₹ in lakh)

Particulars	Asset-B2				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	50.79	51.62	51.62	59.31	67.31
Interest on Loan	46.03	42.22	37.48	38.67	39.95
Return on Equity	47.21	48.21	48.21	55.39	63.03
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	3.32	3.27	3.16	3.53	3.92
Total	147.35	145.32	140.47	156.90	174.21

(₹ in lakh)

Particulars	Asset-C1	Asset-C2
	2018-19	2018-19
Depreciation	37.03	10.63
Interest on Loan	32.37	9.27
Return on Equity	34.68	9.96
O&M Expenses	7.94	0.62
Interest on Working Capital	115.96	0.00
Total	227.98	30.48

12. The details of Interest on Working Capital (IWC) claimed by the Petitioner for the transmission assets for 2014-19 period is as follows:

(₹ in lakh)

Asset-A1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses	3.21	3.02	4.55	3.82	1.24
Working Capital for Maintenance Spares	5.77	5.43	8.18	6.87	2.23
Working Capital for Receivables	7.81	7.40	10.64	9.10	3.66
Total Working Capital	16.71	15.84	23.37	19.78	7.13
Rate of Interest on working capital (in %)	13.50	13.50	13.50	13.50	13.50
Total	2.27	2.14	3.15	2.67	0.96



(₹ in lakh)

Asset-A2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables	2.09	2.09	2.09	2.09	2.09
Total Working Capital	2.09	2.09	2.09	2.09	2.09
Rate of Interest on working capital (in %)	13.50	13.50	13.50	13.50	13.50
Total	0.28	0.28	0.28	0.28	0.28

(₹ in lakh)

Particulars	Asset-B1				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	1.00	0.94	1.42	1.26	0.41
Working Capital for Maintenance Spares (15% of O&M Expenses)	1.80	1.69	2.55	2.27	0.74
Working Capital for Receivables (Equivalent to two months of annual fixed cost)	2.79	2.65	3.66	3.45	1.76
Total Working Capital	5.59	5.28	7.63	6.98	2.91
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	0.75	0.71	1.03	0.94	0.39

(₹ in lakh)

Particulars	Asset-B2				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (Equivalent to two months of annual fixed cost)	24.56	24.22	23.41	26.15	29.04
Total Working Capital	24.56	24.22	23.41	26.15	29.04
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	3.32	3.27	3.16	3.53	3.92



Particulars	(₹ in lakh)	
	Asset-C1 2018-19	Asset-C2 2018-19
Working Capital for O&M Expenses(O&M Expenses for one month)	9.66	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	17.39	0.00
Working Capital for Receivables (Equivalent to two months of annual fixed cost)	38.00	20.38
Total Working Capital	65.05	20.38
Rate of Interest (in %)	12.20	12.20
Interest on Working Capital	7.94	0.62

Capital Cost

13. The details of capital cost as on 1.4.2014 approved vide order dated 9.10.2018 in Petition No. 214/TT/2017 and order dated 26.12.2019 in Review Petition No. 5/RP/2019 in Petition No. 214/TT/2017 with respect to Asset-A1 and Asset-A2, vide order dated 15.4.2015 and order dated 27.6.2016 in Petition No. 540/TT/2014 with respect to Asset-B1 and Asset-B2 and vide order dated 31.1.2021 in Petition No. 170/TT/2019 with respect to Asset-C1 and Asset-C2 are as follows:

(₹ in lakh)		
Asset-A1		
Particulars	Capital	Central Portion
Gross Capital Cost as on 1.4.2014	Loan	47.46
	Equity	20.34
	Total	67.80
Recovered Gross capital cost as on 1.4.2014	Loan	1.02
	Equity	0.24
	Total	1.26
Opening Net Capital Cost	Loan	46.44
	Equity	20.10
	Total	66.54



(₹ in lakh)

Asset-A2		
Particulars	Capital	State Portion
Gross Capital Cost as on 1.4.2014	Loan	68.29
	Equity	29.27
	Total	97.55
Recovered Gross capital cost as on 1.4.2014	Loan	2.05
	Equity	0.49
	Total	2.54
Opening Net Capital Cost	Loan	66.23
	Equity	28.77
	Total	95.01

(₹ in lakh)

Assets	FR apportioned approved cost	Admitted capital cost as on 31.3.2014
Asset-B1	27.35	20.72
Asset-B2	1154.68	777.25
Asset-C1	568.46	441.94
Asset-C2	712.12	540.72

14. The details of capital cost claimed by the Petitioner, as on 1.4.2014, in the instant petition are as follows:

(₹ in lakh)

Asset-A1		
Particulars	Capital	Central Portion
Gross Capital Cost as on 1.4.2014	Loan	47.46
	Equity	20.34
	Total	67.80
Recovered Gross capital cost as on 1.4.2014	Loan	1.02
	Equity	0.24
	Total	1.26
Opening Net Capital Cost	Loan	46.44
	Equity	20.10
	Total	66.54



(₹ in lakh)

Asset-A2		
Particulars	Capital	State Portion
Gross Capital Cost as on 1.4.2014	Loan	68.29
	Equity	29.27
	Total	97.56
Recoverable capital cost as on 1.4.2014	Loan	2.05
	Equity	0.49
	Total	2.54
Opening Net Capital Cost	Loan	66.24
	Equity	28.78
	Total	95.02

(₹ in lakh)

Assets	FR apportioned approved cost	Actual capital cost as on 31.3.2014	Actual ACE			Total cost as on 31.3.2019
			2016-17	2017-18	2018-19	
Asset-B1	27.35	22.73	1.77	7.37	1.11	32.98
Asset-B2	1154.68	815.42	0.00	243.13	9.46	1068.01
Asset-C1	568.46	643.17			24.20	667.37
Asset-C2	712.12	801.82			0.00	801.82

15. The trued-up capital cost considered by the Commission vide order dated 9.10.2018 in Petition No. 214/TT/2017 and order dated 26.12.2019 in Review Petition No. 5/RP/2019 in Petition No. 214/TT/2017 with respect to Asset-A1 and Asset-A2 has been considered as opening capital cost as on 1.4.2014. The Petitioner has also submitted Auditor's Certificate dated 13.4.2021 in respect of capital cost and the same has been allowed in this order as follows:

(₹ in lakh)

Asset-A1		
Particulars	Capital	Central Portion
Gross Capital Cost as on 1.4.2014	Loan	47.46
	Equity	20.34
	Total	67.80
Recovered Gross capital cost as on 1.4.2014	Loan	1.02
	Equity	0.24
	Total	1.26
Opening Net Capital Cost	Loan	46.44



Asset-A1		
Particulars	Capital	Central Portion
	Equity	20.10
	Total	66.54

(₹ in lakh)

Asset-A2		
Particulars	Capital	State Portion
	Loan	68.29
	Equity	29.27
Gross Capital Cost as on 1.4.2014	Total	97.56
Recoverable capital cost as on 1.4.2014	Loan	2.05
	Equity	0.49
	Total	2.54
Opening Net Capital Cost	Loan	66.24
	Equity	28.78
	Total	95.02

Time Over- run

16. There is no time over-run in case of Asset-A1 and Asset-A2. However, there is time over-run in case of Asset-B1, Asset-B2, Asset-C1 and Asset-C2. The time over-run in case of Asset-B1 and Asset-B2 has been dealt in detail at paragraph 26 and 27 of the order dated 27.6.2016 in Petition No. 540/TT/2014 and the time over-run with respect to Asset-C1 and Asset-C2 has been dealt in paragraph 28 and 29 of the order dated 31.1.2021 in Petition No. 170/TT/2019. The details of the time over-run condoned/ not condoned in case of Asset-B1, Asset-B2, Asset-C1 and Asset-C2 are as follows:

Particulars	Actual COD	Time over-run	Condoned/ Not Condoned
Asset-B1- Fibre Optics Cable for ULDC Scheme in NER (8.273 & 1.023 km - Central portion)	1.4.2014	170 days	Not Condoned
Asset-B2- Fibre Optics Cable for ULDC Scheme in NER (392.393 km - State portion)	1.4.2014	229 days	Condoned
Asset-C1- (i) 132 kV Badarpur-Kolasib (OPGW 106.759 km - Central portion) (ii) 132 kV Kolasib-Aizwal (OPGW 65.33 km - Central	1.4.2018	1697 days	1048 days condoned 649 days not condoned



portion) (iii) 132 kV Silchar-Badarpur (OPGW 19.221 km - Central portion) (iv) 132 kV Silchar-Srikona (OPGW 1.199 km - Central portion)			
Asset-C2- 4 Numbers of State Sector Links viz., (i) 220 kV BTPS – Agia (Approx. 65.727 km), (ii) 220 kV Agia – (with LILO at Mirza & Boko) – Sarusajai (Approx. 130.718 km), (iii) 132 kV Srikona – Pailapul (Approx. 33.287 km) & (iv) 132 kV Pailapul – Jiribam (Approx. 12.752 km)	31.12.2018	1971 days	963 days condoned 1008 days not condoned

Interest During Construction (“IDC”)/ Incidental Expenditure During Construction (“IEDC”)

17. The Petitioner has claimed IDC for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 assets and has submitted the statement showing IDC claim, discharge of IDC liability as on COD as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC Discharged upto COD	IDC discharged during 2014-15
Asset-B1	1.03	0.79	0.24
Asset-B2	30.14	20.08	26.09

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC Discharged upto COD	IDC discharged during 2018-19
Asset-C1	99.10	81.38	17.72
Asset-C2	148.24	132.73	15.51

18. The Petitioner has submitted IDC computation statement which contains name of the loan, drawl date, loan amount, interest rate and interest claimed. IDC is worked out based on the details given in IDC statement. Further, loan amount as on COD has been mentioned in Form-6 and Form-9C. On scrutiny of these documents, certain



discrepancies have been noted such as mismatch in loan amount between IDC statement and Form-6 and Form-9C. The allowable IDC has been worked out based on the information available on record and relying on loan amount as per Form-9C. IDC in case of Asset-B1, Asset-B2, Asset-C1 and Asset-C2 considered as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination is as follows.

(₹ in lakh)				
Assets	IDC as per Auditor's Certificate	IDC Discharged upto COD	IDC Disallowed due to time over-run not condoned	IDC discharged during 2014-15
Asset-B1	1.03	0.79	0.00	0.24
Asset-B2	30.14	8.97	0.00	21.17

(₹ in lakh)				
Assets	IDC as per Auditor's Certificate	IDC Discharged upto COD	IDC Disallowed due to time over-run not condoned	IDC discharged during 2018-19
Asset-C1	99.10	42.82	56.28	0.00
Asset-C2	148.24	43.78	104.46	0.00

19. The Petitioner has claimed the following IEDC for Asset-B1, Asset-B2, Asset-C1 and Asset-C2:

(₹ in lakh)	
Assets	IEDC as per Auditor's Certificate
Asset-B1	3.46
Asset-B2	102.08
Asset-C1	77.44
Asset-C2	97.25

20. We have considered the submissions of the Petitioner. The details of IEDC claimed by the Petitioner for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 and considered as on COD and IEDC disallowed are as follows:



(₹ in lakh)

Assets	IEDC as per Auditor's Certificate	IEDC disallowed due to time over-run not condoned	IEDC Allowed
Asset-B1	3.46	0.54	2.92
Asset-B2	102.08	0.00	102.08
Asset-C1	77.44	19.26	58.18
Asset-C2	97.25	34.00	63.25

Initial Spares

21. Regulation 13(d) of the 2014 Tariff Regulations provides that Initial Spares shall be capitalised as a percentage of plant and machinery cost up to cut-off date, subject to the following ceiling norms:

“(d) *Transmission System*

(i) *Transmission line - 1.00%*

(i) *Transmission Sub-station (Green Field) - 4.00%*

(ii) *Transmission Sub-station (Brown Field) - 6.00%*

(iii) *Series Compensation devices and HVDC Station - 4.00%*

(iv) *Gas Insulated Sub-station (GIS) - 5.00%*

(v) *Communication system - 3.5%”*

22. The Petitioner has claimed following Initial Spares for Asset-B1, Asset-B2, Asset-C1 and Asset-C2:

(₹ in lakh)

Assets	Elements	Plant and machinery cost (excluding IDC, IEDC, land cost and cost of civil works for the purpose of Initial Spares)	Apportioned Initial Spares claimed	Ceiling limits as per the 2014 Tariff Regulations (in %)	Ceiling limit of Initial Spares	Excess Initial Spares claimed	Initial Spares allowed
Asset-B1	OPGW	37.09	0.32	3.50%	1.33		0.32
Asset-B2	OPGW	1024.76	19.57	3.50%	36.46		19.57
Asset-C1	OPGW	608.12	44.39	3.50%	20.45	23.94	20.45
Asset-C2	OPGW	632.05	0.00	3.50%	22.92		0.00

23. The details of the capital cost now approved as on 1.4.2014 for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 after adjustment of IDC, IEDC and Initial Spares, if any, are as follows:



(₹ in lakh)						
Assets	Capital cost claimed as on 1.4.2014 as per Auditor's Certificate (A)	IDC disallowed (B)	Excess Initial Spares disallowed (C)	IEDC disallowed (D)	Undischarged IDC as on 1.4.2014 (E)	Capital cost approved as on COD (F=A-B-C-D-E)
Asset-B1	22.73	0.00	0.00	0.54	0.24	21.95
Asset-B2	815.42	0.00	0.00	0.00	21.17	794.25
Asset-C1	643.17	56.28	23.94	19.26	0.00	543.69
Asset-C2	801.82	104.46	0.00	34.00	0.00	663.36

Additional Capital Expenditure ("ACE")

24. The Commission vide order dated 9.10.2018 in Petition No. 214/TT/2017 and order dated 26.12.2019 in Review Petition No. 5/RP/2019 in Petition No. 214/TT/2017 with respect to Asset-A1 and Asset-A2, vide order dated 15.4.2015 and order dated 27.6.2016 in Petition No. 540/TT/2014 with respect to Asset-B1 and Asset-B2 and vide order dated 31.1.2021 in Petition No. 170/TT/2019 with respect to Asset-C1 and Asset-C2 allowed the following ACE for 2014-19 tariff period:

(₹ in lakh)				
Assets	ACE			
	2015-16	2016-17	2017-18	2018-19
Asset-A1	0.00	21.36	50.64	8.94
Asset-A2	0.00	25.37	56.45	9.96
Asset-B1	13.04	0.00	0.00	0.00
Asset-B2	296.45	0.00	0.00	0.00
Asset-C1				0.00
Asset-C2				0.00

25. The Petitioner has claimed the following ACE based on the Auditor's Certificates dated 13.4.2021:

(₹ in lakh)					
Assets	Actual ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1	0.00	0.00	21.36	44.93	1.25
Asset-A2	0.00	0.00	25.37	59.44	2.74
Asset-B1	0.00	0.00	1.77	7.37	1.11
Asset-B2	26.09	0.00	0.00	243.13	9.46
Asset-C1					24.20
Asset-C2					0.00



26. The Commission vide order dated 26.12.2019 in Review Petition No. 5/RP/2019 in Petition No. 214/TT/2017 had allowed the ACE in 2014-19 tariff period for Asset-A1 and Asset-A2.

27. ACE claimed by the Petitioner for Asset-B1, Asset-B2 and Asset-C1 for 2014-19 tariff period has been allowed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations which pertains to undischarged liabilities. Accordingly, ACE allowed for 2014-19 tariff period are as follows:

(₹ in lakh)

Assets	Actual ACE				
	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1	0.00	0.00	21.36	44.93	1.25
Asset-A2	0.00	0.00	25.37	59.44	2.74

(₹ in lakh)

Asset-B1					
Particulars	Regulation	ACE claimed			
		2014-15	2016-17	2017-18	2018-19
Balance and retention payments for liabilities other than IDC	14(1)(i)	0.00	1.77	7.37	1.11
Accrual IDC	14(1)(i)	0.24	0.00	0.00	0.00
Total ACE		0.24	1.77	7.37	1.11

(₹ in lakh)

Asset B2				
Particulars	Regulation	ACE claimed		
		2014-15	2017-18	2018-19
Balance and retention payments for liabilities other than IDC	14(1)(i)	0.00	243.13	9.46
Accrual IDC	14(1)(i)	21.17	0.00	0.00
Total ACE		21.17	243.13	9.46

(₹ in lakh)

Asset C1		
Particulars	Regulation	ACE claimed
		2018-19
Balance and retention payments for liabilities other than IDC	14(1)(i)	24.20
Total ACE		24.20



28. Accordingly, the capital cost considered for truing up of transmission tariff for the 2014-19 period is as follows:

(₹ in lakh)

Assets	Capital Cost allowed as on COD	ACE allowed				Capital Cost allowed as on 31.3.2019
		2014-15	2016-17	2017-18	2018-19	
Asset-B1	21.95	0.24	1.77	7.37	1.11	32.44
Asset-B2	794.25	21.17	0.00	243.13	9.46	1068.01
Asset-C1	543.69	0.00	0.00	0.00	24.20	567.89
Asset-C2	663.36	0.00	0.00	0.00	0.00	663.36

Debt-Equity Ratio

29. The following debt-equity ratio has been considered for Asset-A1 and Asset-A2 as on 1.4.2014:

Asset-A1		
Particulars	Capital	Central Portion
Capital Cost as on 1.4.2014 (₹ in lakh)	Loan	47.46
	Equity	20.34
	Total	67.80
Debt-Equity Ratio (in %)	Loan	70.00
	Equity	30.00
	Total	100.00

Asset-A2		
Particulars	Capital	Central Portion
GrossCapital Cost as on 1.4.2014 (₹ in lakh)	Loan	68.29
	Equity	29.27
	Total	97.56
Debt-Equity Ratio (in %)	Loan	70.00
	Equity	30.00
	Total	100.00

30. Debt-equity ratio for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, debt:equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be



considered. Accordingly, debt-equity ratio for the period ending on 31.3.2014, considered for the purpose of determination of tariff of 2014-19 tariff period, has been considered for the purpose of truing up of the tariff of the transmission asset for 2014-19 tariff period as follows:

Asset-B1				
Funding	Capital Cost (as on COD) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Debt	15.36	70.00	22.71	70.00
Equity	6.58	30.00	9.73	30.00
Total	21.95	100.00	32.44	100.00
Asset-B2				
Funding	Capital Cost (as on COD) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Debt	555.98	70.00	747.61	70.00
Equity	238.28	30.00	320.40	30.00
Total	794.25	100.00	1068.01	100.00
Asset-C1				
Funding	Capital Cost (as on COD) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Debt	380.58	70.00	397.52	70.00
Equity	163.11	30.00	170.37	30.00
Total	543.69	100.00	567.89	100.00
Asset-C2				
Funding	Capital Cost (as on COD) (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Debt	464.35	70.00	464.35	70.00
Equity	199.01	30.00	199.01	30.00
Total	663.36	100.00	663.36	100.00

Rates for Recovery of Capital for Asset-A1 and Asset-A2

Capital Recovery for Loan

31. The year wise weighted average rate of interest has been calculated on the basis of the impact due to change in floating rate of interest of loan which have been applied for calculating the capital recovery factor for loan. The details of the weighted average rate of interest are placed in Annexure-I and Annexure-III.



Capital Recovery for Equity

32. The methodology as used for true-up calculation for 2009-14 period approved vide order dated 15.7.2016 in Petition No. 19/TT/2015, has been considered for Capital Recovery of Equity. Hence, post-tax RoE of 15.50%, without grossing has been applied for calculating the capital recovery factor for equity.

Monthly Capital Recovery Charges

33. The monthly Capital Recovery Factors for loan has been worked out using the following relationship:

$$\text{Recovery Factor} = \frac{i * (1+i)^n}{(1+i)^n - 1} \quad n=\text{period and } i=\text{rate}$$

34. The COD of Asset-A1 and Asset-A2 in the ULDC scheme was 1.4.2013. The Commission had approved the recovery of deemed loan, corresponding to 2009-14 tariff period and subsequent ACE, based on the weighted average rate of interest using Capital Recovery Factor for loan for 15 years.

35. Accordingly, the monthly recovery factors for loan for Central portion as well as State portion are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1- Central Portion	0.010331	0.010741	0.011222	0.011746	0.012256

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A2- State Portion	0.010170	0.010516	0.010919	0.011299	0.011618

36. Similarly, the monthly recovery factors for equity for Central Portion as well as State Portion are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1- Central Portion	0.014608	0.014933	0.015332	0.015825	0.016441



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A2- State Portion	0.014340	0.014608	0.014933	0.015332	0.015825

37. Based on the above recovery factors, monthly capital recovery charges for loan for Central Portion as well as State Portion are worked out as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1- Central Portion	0.48	0.48	0.48	0.65	1.05

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A2- State Portion	0.67	0.67	0.67	0.87	1.33

38. Similarly, the monthly capital recovery charges for equity for Central Portion as well as State Portion are worked out as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1- Central Portion	0.29	0.29	0.29	0.40	0.63

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A2- State Portion	0.41	0.41	0.41	0.53	0.81

39. Accordingly, the following capital recovery charges during 2014-19 period has been worked out:

(₹ in lakh)		
Asset-A1		
Particulars	Capital	Central Portion
Retained Gross Capital Cost as on 1.4.2014	Loan	47.46
	Equity	20.34
	Total	67.80
Capital Cost Recovered up to 31.3.2019	Loan	13.65
	Equity	3.81
	Total	17.47
Net Capital Cost as on 31.3.2019	Loan	33.81
	Equity	16.53
	Total	50.33

(₹ in lakh)



Asset-A2		
Particulars	Capital	State Portion
Retained Gross Capital Cost as on 1.4.2014	Loan	68.29
	Equity	29.27
	Total	97.56
Capital Cost Recovered up to 31.3.2019	Loan	19.34
	Equity	5.30
	Total	24.64
Net Capital Cost as on 31.3.2019	Loan	48.95
	Equity	23.97
	Total	72.92

Depreciation

40. Depreciation for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering the capital expenditure as on 1.4.2014 and approved ACE during 2014-19 tariff period. The gross block during 2014-19 tariff period has been depreciated at weighted average rate of depreciation (WAROD). WAROD at Annexure-V, Annexure-VI, Annexure-VII and Annexure-VIII has been worked out after considering the depreciation rates of the transmission assets as prescribed in the 2014 Tariff Regulations and depreciation allowed during 2014-19 tariff period is as follows:

(₹ in lakh)

Asset-B1						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Depreciation					
A	Opening Gross Block	21.95	22.19	22.19	23.96	31.33
B	ACE	0.24	0.00	1.77	7.37	1.11
C	Closing Gross Block (A+B)	22.19	22.19	23.96	31.33	32.44
D	Average Gross Block (A+C)/2	22.07	22.19	23.07	27.64	31.88
E	Freehold land	0.00	0.00	0.00	0.00	0.00
F	Weighted Average Rate of Depreciation (in %)	6.33	6.33	6.33	6.33	6.33
G	Aggregate Depreciable Value	15	15	14	13	12
H	Balance useful life of the asset (Year)	0	0	1	2	3
I	Lapsed life at the beginning of the year (Year)	19.86	19.97	20.76	24.88	28.69
J	Depreciation during the year	1.40	1.40	1.46	1.75	2.02
K	Cumulative depreciation	1.40	2.80	4.26	6.01	8.03



L	Remaining Depreciable Value (G-K)	18.46	17.17	16.50	18.87	20.66
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(₹ in lakh)

Asset-B2						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Depreciation					
A	Opening Gross Block	794.25	815.42	815.42	815.42	1058.55
B	ACE	21.17	0.00	0.00	243.13	9.46
C	Closing Gross Block (A+B)	815.42	815.42	815.42	1058.55	1068.01
D	Average Gross Block (A+C)/2	804.84	815.42	815.42	936.99	1063.28
E	Freehold land	0.00	0.00	0.00	0.00	0.00
F	Weighted average rate of Depreciation (WAROD) (in %)	6.33	6.33	6.33	6.33	6.33
G	Balance useful life of the asset (Year)	15	14	13	12	11
H	Lapsed life at the beginning of the year (Year)	0	1	2	3	4
I	Aggregate Depreciable Value	724.35	733.88	733.88	843.29	956.95
J	Depreciation during the year	50.95	51.62	51.62	59.31	67.31
K	Aggregate Cumulative Depreciation	50.95	102.56	154.18	213.49	280.80
L	Remaining Aggregate Depreciable Value	673.41	631.32	579.70	629.80	676.16

(₹ in lakh)

Particulars		Asset-C1	Asset-C2
		2018-19	2018-19
	Depreciation		
A	Opening Gross Block	543.69	663.36
B	ACE	24.20	0.00
C	Closing Gross Block (A+B)	567.89	663.36
D	Average Gross Block (A+C)/2	555.79	663.36
E	Freehold land	0.00	0.00
F	Weighted Average Rate of Depreciation (in %)	6.33	6.33
G	Aggregate Depreciable Value	14	15
H	Balance useful life of the asset (Year)	1	0
I	Lapsed life at the beginning of the year (year)	500.21	597.02
J	Depreciation during the year	35.18	10.47
K	Cumulative depreciation	35.18	10.47
L	Remaining Depreciable Value (G-K)	465.03	586.56

Interest on Loan ("IoL")

41. The Petitioner has claimed the weighted average rate of IoL based on its actual loan portfolio and rate of interest.



42. IoL has been calculated based on actual interest rate submitted by the Petitioner in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 are as follows:

(₹ in lakh)

	Particulars	Asset-B1				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Interest on Loan					
A	Gross Normative Loan	15.36	15.53	15.53	16.77	21.93
B	Cumulative Repayments upto Previous Year	0.00	1.40	2.80	4.26	6.01
C	Net Loan-Opening (A-B)	15.36	14.13	12.73	12.51	15.92
D	Additions	0.17	0.00	1.24	5.16	0.78
E	Repayment during the year	1.40	1.40	1.46	1.75	2.02
F	Net Loan-Closing (C+D-E)	14.13	12.73	12.51	15.92	14.68
G	Average Loan (C+F)/2	14.75	13.43	12.62	14.21	15.30
H	Weighted Average Rate of Interest on Loan (in %)	8.6850	8.6850	8.6494	8.5716	8.4551
H	Interest on Loan (G*H)	1.28	1.17	1.09	1.22	1.29

(₹ in lakh)

	Particulars	Asset-B2				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Interest on Loan					
A	Gross Normative Loan	555.98	570.79	570.79	570.79	740.99
B	Cumulative Repayments upto Previous Year	0.00	50.95	102.56	154.18	213.49
C	Net Loan-Opening (A-B)	555.98	519.85	468.23	416.62	527.50
D	Additions	14.82	0.00	0.00	170.19	6.62
E	Repayment during the year	50.95	51.62	51.62	59.31	67.31
F	Net Loan-Closing (C+D-E)	519.85	468.23	416.62	527.50	466.81
G	Average Loan (C+F)/2	537.91	494.04	442.42	472.06	497.15
H	Weighted Average Rate of Interest on Loan (in %)	8.5826	8.5436	8.4686	8.1885	8.0324
H	Interest on Loan (G*H)	46.17	42.21	37.47	38.65	39.93

(₹ in lakh)

	Particulars	Asset-C1	Asset-C2
		2018-19	2018-19
	Interest on Loan		
A	Gross Normative Loan	380.58	464.35
B	Cumulative Repayments upto Previous Year	0.00	0.00
C	Net Loan-Opening (A-B)	380.58	464.35
D	Additions	16.94	0.00
E	Repayment during the year	35.18	10.47
F	Net Loan-Closing (C+D-E)	362.34	453.88
G	Average Loan (C+F)/2	371.46	459.12
H	Weighted Average Rate of Interest on Loan (in %)	8.2793	7.9721



	Particulars	Asset-C1	Asset-C2
		2018-19	2018-19
H	Interest on Loan (G*H)	30.75	9.13

Return on Equity ("RoE")

43. The Petitioner has claimed RoE for the transmission assets in accordance with Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that they are liable to pay income tax at MAT rates and has claimed following effective tax rates for 2014-19 tariff period:

Year	Claimed effective tax rate (in %)	Grossed up RoE [(Base Rate)/(1-t)] (in %)
2014-15	21.018	19.625
2015-16	21.382	19.715
2016-17	21.338	19.705
2017-18	21.337	19.705
2018-19	21.549	19.758

44. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019, has arrived at the effective tax rate for the Petitioner based on the notified MAT rates and the same is as follows:

Year	Notified MAT rates (inclusive of surcharge & cess)	Effective tax (in %)
2014-15	20.961	20.961
2015-16	21.342	21.342
2016-17	21.342	21.342
2017-18	21.342	21.342
2018-19	21.549	21.549

45. The same MAT rates as considered in Petition No. 274/TT/2019 are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 period in terms of the provisions of the 2014 Tariff Regulations, which is as follows:

Year	Notified MAT rates (inclusive of surcharge & cess) (in %)	Effective tax (in %)	Grossed up RoE [(Base Rate)/(1-t)] (in %)
2014-15	20.961	20.961	19.611



2015-16	21.342	21.342	19.706
2016-17	21.342	21.342	19.706
2017-18	21.342	21.342	19.706
2018-19	21.549	21.549	19.758

46. Trued-up RoE is allowed on the basis of the MAT rate applicable in the respective years for 2014-19 tariff period is as follows:

(₹ in lakh)

	Particulars	Asset-B1				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Return on Equity					
A	Opening Equity	6.58	6.66	6.66	7.19	9.40
B	Additions	0.07	0.00	0.53	2.21	0.33
C	Closing Equity (A+B)	6.66	6.66	7.19	9.40	9.73
D	Average Equity (A+C)/2	6.62	6.66	6.92	8.29	9.56
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.758
H	Return on Equity (D*G)	1.30	1.31	1.36	1.63	1.89

(₹ in lakh)

	Particulars	Asset-B2				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Return on Equity					
A	Opening Equity	238.28	244.63	244.63	244.63	317.57
B	Additions	6.35	0.00	0.00	72.94	2.84
C	Closing Equity (A+B)	244.63	244.63	244.63	317.57	320.40
D	Average Equity (A+C)/2	241.45	244.63	244.63	281.10	318.98
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
G	Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.758
H	Return on Equity (D*G)	47.35	48.20	48.20	55.39	63.02

(₹ in lakh)

	Particulars	Asset C1	Asset C2
		2018-19	2018-19
	Return on Equity		
A	Opening Equity	163.11	199.01
B	Additions	7.26	0.00
C	Closing Equity (A+B)	170.37	199.01
D	Average Equity (A+C)/2	166.74	199.01
E	Return on Equity (Base Rate) (in %)	15.500	15.500
F	MAT Rate for respective year (in %)	21.549	21.549
G	Rate of Return on Equity (in %)	19.758	19.758
H	Return on Equity (D*G)	32.94	9.80



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

47. The Petitioner has claimed O&M Expenses for Central portion of Asset-A1, Asset-B1 and Asset-C1 and no O&M Expenses have been claimed for Asset-A2, Asset-B2 and Asset-C2 as they are owned and maintained by the States.

48. The details of O&M Expenses allowed by the Commission for Asset-A1 vide order dated 9.10.2018 in Petition No. 214/TT/2017 are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses allowed vide order dated 9.10.2018 in Petition No. 214/TT/2017	38.46	36.19	54.57	56.38	58.25

49. The actual O&M Expenses claimed by the Petitioner in the instant true-up petition are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A1	38.49	36.18	54.56	45.81	14.89
Asset-B1	11.97	11.26	17.00	15.16	4.94
Asset-C1	NA				115.96

50. The Petitioner has only claimed the O&M Expenses for the transmission assets under the Central Portion and has submitted the Auditor's Certificate in support of the same. The Petitioner has further submitted that Asset-A1 in the ULDC Scheme in Northern Region was put into commercial operation with effect from 1.4.2013. Accordingly, for the remaining period in 2014-19 tariff period, only O&M Expenses and Interest on Working Capital (IWC) for the Central portion is claimed for Asset-A1.

51. The Petitioner has further claimed the self insurance as part of O&M Expenses towards Asset-A1, Asset-B1 and Asset-C1.

52. We have considered the submissions made by the Petitioner. As regards self insurance, the Commission vide order dated 29.7.2016 in Petition No. 275/TT/2015



considered the Petitioner's claim towards self insurance and disallowed the same. The relevant portion of the said order is as follows:

"45. The petitioner was directed vide RoP dated 22.3.2016, to submit the actual O&M Expenses year wise along with details. In response, the petitioner vide affidavit dated 29.6.2016 has submitted that actual O&M Expenses for 2014-15 towards Asset-I and II are ₹5.75 lakh and ₹4.46 lakh respectively. Break up of O&M Expenses has also been provided vide Auditor's Certificate dated 15.6.2016. The petitioner has claimed self insurance reserved as expenses under O&M Expenses which is not allowable as expenses....."

Therefore, the Petitioner's claim towards self insurance is not allowed.

53. Further, the Petitioner has claimed the petition filing charges as part of the O&M Expenses, which has to be claimed directly from the beneficiaries, therefore, the same is not allowable under O&M Expenses and, accordingly, has been disallowed.

54. The Petitioner has also claimed the advertisement and Publicity Charges as part of the O&M Expenses, which is not allowable as O&M Expenses and, therefore, the same has been disallowed.

55. Accordingly, O&M Expenses allowed for 2014-19 tariff period for Asset-A1, Asset-B1 and Asset-C1 as per the Auditor's Certificate after deducting the disallowances are as follows:

(₹ in lakh)					
Asset-A1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses claimed by the Petitioner	38.49	36.18	54.56	45.81	14.89
Less: Self Insurance	0.11	0.11	0.13	0.12	0.12
Less: Advertisement	3.71	0.00	0.00	0.00	0.00
Less: Cerc Petition & Other Charges	0.8	0.01	2.29	0.00	0.44
O&M Expenses Allowed	33.87	36.06	52.14	45.69	14.33
Asset-B1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses claimed by the Petitioner	11.97	11.26	17.00	15.16	4.94
Less: Self Insurance	0.03	0.03	0.04	0.04	0.04
Less: Advertisement	1.15	0.00	0.00	0.00	0.00



Less: Cerc Petition & Other Charges	0.25	0	0.71	0	0.15
O&M Expenses Allowed	10.54	11.23	16.25	15.12	4.75
Asset-C1					
Particulars	2018-19				
O&M Expenses claimed by the Petitioner	115.96				
Less: Self Insurance	0.94				
Less: Advertisement	0.00				
Less: Cerc Petition & Other Charges	3.42				
O&M Expenses Allowed	111.60				

Interest on Working Capital ("IWC")

56. The Petitioner is entitled to IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations. The components of the working claimed and the Petitioner's entitlement to interest thereon are as follows:

- (i) **Receivables:** The receivables have been worked out on the basis of 2 months of annual transmission charges.
- (ii) **Maintenance Spares:** Maintenance spares have been worked out based on 15% per annum of Operation and Maintenance Expenses.
- (iii) **O&M Expenses:** O&M Expenses have been considered for one month of the allowed O&M Expenses.
- (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.

57. The Petitioner has claimed O&M Expenses for the Central Portion and, accordingly, O&M Expenses for one month, Maintenance Spares @15% of O&M Expenses, receivables for two months and SBI Base Rate as on 1.4.2014 i.e. 10.00% plus 350 bps (13.50%) and SBI Base Rate as on 1.4.2018 i.e. 8.70% plus 350 bps (12.20%) have been considered as the rate of IWC for the Central Portion only.

58. The following trued-up IWC has been allowed for Asset-A1 and Asset-A2:



(₹ in lakh)

Asset-A1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	2.82	3.01	4.35	3.81	1.24
Working Capital for Maintenance Spares (15% of O&M Expenses)	5.08	5.41	7.82	6.85	2.23
Working Capital for Receivables (equivalent to two months of fixed cost)	7.54	7.92	10.75	10.18	5.96
Total Working Capital	15.44	16.34	22.92	20.84	9.30
Rate of Interest on working capital (in %)	13.50	13.50	13.50	13.50	13.50
Total	2.08	2.21	3.09	2.81	1.26

(₹ in lakh)

Asset-A2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (equivalent to 2 months of Annual Fixed Charges/Annual Transmission Charges)	2.22	2.22	2.22	2.86	4.39
Total Working Capital	2.22	2.22	2.22	2.86	4.39
Rate of Interest on working capital (in %)	13.50	13.50	13.50	13.50	13.50
Total	0.30	0.30	0.30	0.39	0.59

(₹ in lakh)

	Particulars	Asset-B1				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Interest on Working Capital					
A	Working Capital for O&M Expenses (O&M Expenses for one month)	0.88	0.94	1.35	1.26	0.40
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	1.58	1.68	2.44	2.27	0.71
C	Working Capital for Receivables (equivalent to 2 months of Annual Fixed Charges/Annual Transmission Charges)	2.53	2.64	3.53	3.44	1.72
D	Total Working Capital (A+B+C)	4.99	5.26	7.32	6.97	2.83
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	Interest of Working Capital (D*E)	0.67	0.71	0.99	0.94	0.38



(₹ in lakh)

	Particulars	Asset-B2				
		2014-15	2015-16	2016-17	2017-18	2018-19
	Interest on Working Capital					
A	Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (equivalent to two months of Annual Fixed Charges/Annual Transmission Charges)	24.63	24.22	23.41	26.15	29.03
D	Total Working Capital (A+B+C)	24.63	24.22	23.41	26.15	29.03
E	Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
F	Interest of Working Capital (D*E)	3.33	3.27	3.16	3.53	3.92

(₹ in lakh)

	Particulars	Asset-C1	Asset-C2
		2018-19	2018-19
	Interest on Working Capital		
A	Working Capital for O&M Expenses (O&M Expenses for one month)	9.30	0.00
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	16.74	0.00
C	Working Capital for Receivables (equivalent to two months of Annual Fixed Charges/Annual Transmission Charges)	36.35	20.06
D	Total Working Capital (A+B+C)	62.39	20.06
E	Rate of Interest (in %)	12.20	12.20
F	Interest of Working Capital (D*E)	7.61	0.61

Approved Annual Fees and Charges for 2014-19 Tariff Period

59. The annual fees and charges allowed after true-up for the 2014-19 tariff period for Asset-A1 and Asset-A2 are provided in Annexure-I and Annexure-III and the same are as follows:

(₹ in lakh)

Asset-A1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	9.28	9.28	9.28	12.57	20.17
O&M Expenses	33.87	36.06	52.14	45.69	14.33
Interest on Working Capital	2.08	2.21	3.09	2.81	1.26
Total	45.24	47.55	64.51	61.08	35.76



(₹ in lakh)

Asset-A2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charges	13.04	13.04	13.03	16.77	25.73
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.30	0.30	0.30	0.39	0.59
Total	13.34	13.34	13.33	17.15	26.32

60. The trued up AFC for Asset-B1, Asset-B2, Asset-C1 and Asset-C2 for the 2014-19 tariff period are as follows:

(₹ in lakh)

Asset-B1						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Annual Transmission Charges					
A	Depreciation	1.40	1.40	1.46	1.75	2.02
B	Interest on Loan	1.28	1.17	1.09	1.22	1.29
C	Return on Equity	1.30	1.31	1.36	1.63	1.89
D	O&M Expenses	10.54	11.23	16.25	15.12	4.75
E	Interest on Working Capital	0.67	0.71	0.99	0.94	0.38
F	Total (A+B+C+D+E)	15.19	15.82	21.15	20.66	10.33

(₹ in lakh)

Asset-B2						
	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
	Annual Transmission Charges					
A	Depreciation	50.95	51.62	51.62	59.31	67.31
B	Interest on Loan	46.17	42.21	37.47	38.65	39.93
C	Return on Equity	47.35	48.20	48.20	55.39	63.02
D	O&M Expenses	0.00	0.00	0.00	0.00	0.00
E	Interest on Working Capital	3.33	3.27	3.16	3.53	3.92
F	Total (A+B+C+D+E)	147.79	145.30	140.45	156.89	174.18

(₹ in lakh)

	Particulars	Asset-C1 2018-19	Asset-C2 2018-19
	Annual Transmission Charges		
A	Depreciation	35.18	10.47
B	Interest on Loan	30.75	9.13
C	Return on Equity	32.94	9.80
D	O&M Expenses	111.60	0.00
E	Interest on Working Capital	7.61	0.61
F	Total (A+B+C+D+E)	218.09	30.01



DETERMINATION OF ANNUAL FEES AND CHARGES FOR 2019-24 TARIFF PERIOD FOR ASSET-A1 AND ASSET-A2

61. As stated above, Asset-A1 and Asset-A2 were put into commercial operation on 1.4.2013 and as per Regulation 8(1)(iii) of the 2019 Tariff Regulations the fees and charges for the 2019-24 tariff period have to be determined as per the methodology adopted prior to 1.4.2014. Accordingly, levelized tariff is allowed for Asset-A1 and Asset-A2 for the 2019-24 tariff period.

62. The Petitioner has claimed the following annual fees and charges for 2019-24 tariff period for Asset-A1 and Asset-A2:

(₹ in lakh)

Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Capital Recovery Charges	19.94	21.61	21.61	23.59	23.59
O&M Expenses	2.71	2.89	2.89	3.06	3.06
Interest on Working Capital	0.42	0.45	0.45	0.49	0.49
Total	23.07	24.95	24.95	27.14	27.14

(₹ in lakh)

Asset-A2					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Capital Recovery Charges	27.23	27.39	27.42	29.06	29.06
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.41	0.41	0.41	0.44	0.44
Total	27.64	27.80	27.83	29.50	29.50

63. The details of IWC claimed by the Petitioner for 2019-24 period for Asset-A1 and Asset-A2 are as follows:

(₹ in lakh)

Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.23	0.24	0.24	0.26	0.26
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.41	0.43	0.43	0.46	0.46



Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Receivables (equivalent to two months of Annual Fixed Charges/Annual Transmission Charges)	2.84	3.08	3.08	3.35	3.34
Total Working Capital	3.47	3.75	3.75	4.06	4.05
Rate of Interest on working capital (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	0.42	0.45	0.45	0.49	0.49

(₹ in lakh)

Asset-A2					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (equivalent to two months of Annual Fixed Charges/Annual Transmission Charges)	3.40	3.43	3.43	3.64	3.63
Total Working Capital	3.40	3.43	3.43	3.64	3.63
Rate of Interest on working capital (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	0.41	0.41	0.41	0.44	0.44

64. We have considered the submissions made by the Petitioner. The COD of Asset-A1 and Asset-A2 was 1.4.2013. The Commission had approved the recovery of deemed loan, corresponding to 2009-14 tariff period and subsequent ACE during the period, based on the weighted average rate of interest using capital recovery factor for loan for 15 years.

65. Therefore, only the O&M Expenses for the Central Portion (Asset-A1) along with the consequential IWC have been allowed as part of the approved fees and charges for the 2019-24 tariff period. Asset-A2 is a State Sector asset, hence, only the IWC is allowed for Asset-A2.

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

66. O&M Expenses claimed by the Petitioner for Asset-A1 for 2019-24 tariff period are as follows:



Asset-A1					
O&M Expenses					
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Capital Cost (2% of ₹135.33 lakh)	2.71	2.89	2.89	3.06	3.06
Total O&M Expenses (₹ in lakh)	2.71	2.89	2.89	3.06	3.06

67. The Regulation 35(4) of the 2019 Tariff Regulations provides for O&M Expenses for Communication System as follows:

*“(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.”*

68. O&M Expenses are allowed for Asset-A1 @2% of its capital cost as specified in the 2019 Tariff Regulations and the same are as follows:

(₹ in lakh)					
Details	2019-20	2020-21	2021-22	2022-23	2023-24
Asset-A1 Communication System					
Loan – Central Portion	94.74	101.07	101.07	107.23	107.23
Equity – Central Portion	40.60	43.31	43.31	45.95	45.95
Gross Capital Cost – Central Portion	135.34	144.38	144.38	153.18	153.18
Norm (2% of the capital cost)	2.71	2.89	2.89	3.06	3.06
Total O&M Expenses	2.71	2.89	2.89	3.06	3.06

Interest on Working Capital (“IWC”)

69. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specifies as follows:

“34. Interest on Working Capital

(1)...

(c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:

- i. Receivables equivalent to 45 days of 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.Definitions ...

(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;”

70. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%.

71. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations for Asset-A1 and Asset-A2. The Rate of Interest (RoI) considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-2021 and from 2021-22 onwards as 10.50% (SBI 1-year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon are as follows:

(₹ in lakh)					
Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.23	0.24	0.24	0.26	0.26
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.41	0.43	0.43	0.46	0.46



Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Receivables (Equivalent to 45 days of annual transmission cost)	2.89	3.13	3.12	3.41	3.40
Total Working Capital	3.52	3.80	3.80	4.12	4.11
Rate of Interest on working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	0.42	0.43	0.40	0.43	0.43

(₹ in lakh)

Asset-A2					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (Equivalent to 45 days of annual transmission cost)	3.48	3.51	3.51	3.75	3.74
Total Working Capital	3.48	3.51	3.51	3.75	3.74
Rate of Interest on working capital (%)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	0.42	0.39	0.37	0.39	0.39

Annual Fees and Charges for 2019-24 Tariff Period

72. The annual fees and charges allowed for Asset-A1 and Asset-A2 for 2019-24 tariff period are as follows:

(₹ in lakh)

Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Capital Recovery Charges	20.38	22.05	22.05	24.13	24.13
O&M Expenses	2.71	2.89	2.89	3.06	3.06
Interest on Working Capital	0.42	0.43	0.40	0.43	0.43
Total	23.51	25.37	25.34	27.62	27.62

(₹ in lakh)

Asset-A2					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Capital Recovery Charges	27.85	28.04	28.07	29.99	29.99
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.42	0.39	0.37	0.39	0.39
Total	28.27	28.43	28.44	30.38	30.38



73. The working of the tariff for 2019-24 period is placed at Annexure-II and Annexure-IV.

Determination of Annual Fixed Charges for 2019-24 Tariff Period for Asset-B1, Asset-B2, Asset-C1 and Asset-C2

74. Asset-B1, Asset-B2, Asset-C1 and Asset-C2 were put under commercial operation in 2014-19 tariff period. Asset-B1 and Asset-C1 are under Central portion while the Asset-B2 and Asset-C2 are under State portion.

75. Thus, for the purpose of convenience, Asset-B1 and Asset-C1, under Central portion, are being combined here to form a single asset (Asset-I) for the purpose of determination of transmission tariff for the 2019-24 period. Similarly, Asset-B2 and Asset-C2 are being combined to form another single asset (Asset-II) for the purpose of determination of transmission tariff for the 2019-24 tariff period. The Petitioner has claimed the following transmission charges for the 2019-24 tariff period for Asset-I and Asset-II:

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	41.09	42.73	45.48	47.82	47.82
Interest on Loan	32.17	30.12	28.97	27.23	23.26
Return on Equity	36.57	38.03	40.48	42.56	42.56
O&M Expenses	15.11	15.11	15.11	15.11	15.11
Interest on Working Capital	2.31	2.33	2.39	2.43	2.37
Total	127.25	128.32	132.43	135.15	131.12

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	110.88	111.80	116.38	120.66	120.66
Interest on Loan	70.46	62.24	57.39	51.48	41.18
Return on Equity	98.70	99.52	103.59	107.40	107.40
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	4.21	4.13	4.18	4.22	4.05
Total	284.25	277.69	281.54	283.76	273.29



76. The details of the IWC claimed by the Petitioner for Asset-I and Asset-II for 2019-24 period are as follows:

(₹ in lakh)

Asset-I					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	1.26	1.26	1.26	1.26	1.26
Working Capital for Maintenance Spares (15% of O&M Expenses)	2.27	2.27	2.27	2.27	2.27
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	15.65	15.82	16.33	16.66	16.12
Total Working Capital	19.18	19.35	19.86	20.19	19.65
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	2.31	2.33	2.39	2.43	2.37

(₹ in lakh)

Asset-II					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	34.95	34.24	34.71	34.98	33.60
Total Working Capital	34.95	34.24	34.71	34.98	33.60
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	4.21	4.13	4.18	4.22	4.05

Effective Date of Commercial Operation ("E-COD")

77. The Petitioner has stated that E-COD of the Asset-I and Asset-II works out to be 16.1.2018 and 1.2.2016 respectively. E-COD of Asset-I and Asset-II has been worked out based on the trued-up capital cost and COD of the individual assets and the same is as follows:

Asset-I	Trued-up capital cost as on 31.3.2019 (₹ in lakh)	COD	No. of days from COD of asset from COD of Project	Weight of cost (in %)	Weighted days
Asset-B1	32.44	1.4.2014	1461	5.40%	78.94
Asset-C1	567.89	1.4.2018	0	94.60%	0.00
Total	600.32				80.19



Asset-I	Trued-up capital cost as on 31.3.2019 (₹ in lakh)	COD	No. of days from COD of asset from COD of Project	Weight of cost (in %)	Weighted days
E-COD (latest COD – total weighted days)					12.1.2018

Asset-II	Trued-up Capital Cost as on 31.3.2019 (₹ in lakh)	COD	No. of days from COD of Asset from COD of Project	Weight of cost (in %)	Weighted days
Asset-B2	1068.01	1.4.2014	1735	61.69%	1070.25
Asset-C2	663.36	31.12.2018	0	38.31%	0.00
Total	1731.37				1070.25
E-COD (latest COD – total weighted days)					25.1.2016

78. E-COD is used to determine the lapsed life of the project as a whole which works out as 1 (one) year and 3 (three) years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD) for Asset-I and Asset-II respectively.

Weighted Average Life (WAL) of the Project

79. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of WAL.

80. Asset-I and Asset-II may have multiple elements such as land, building, transmission line, sub-station and PLCC and each element may have different span of life. Therefore, the concept of WAL has been used as the useful life of the project as a whole.

81. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as specified in the 2019 Tariff Regulations. The element-wise life as defined in the regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL.



Accordingly, the WAL the Asset-I and Asset-II were executed during 2014-19 periods has been worked out as 15 years as follows:

Asset-I				
Particulars	Life (in years) (1)	Capital cost as on 31.3.2019 (₹ in lakh) (2)	Weighted cost (₹ in lakh) (3) = (1) * (2)	Weighted avg. life of asset (in years) (4) = (3) / (2)
				15 years
OPGW	15.00	600.32	9004.86	
Total		600.32	9004.86	
Asset-II				
Particulars	Life (in years) (1)	Capital Cost as on 31.3.2019 (₹ in lakh) (2)	Weighted Cost (₹ in lakh) (3) = (1) * (2)	Weighted Avg. Life of Asset (in years) (4) = (3) / (2)
				15 years
OPGW	15.00	1731.37	25970.57	
Total		1731.37	25970.57	

82. WAL 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. As discussed above, E-COD of Asset-I and Asset-II is 12.1.2018 and 25.1.2016 and the elapsed life works out as 1 year and 3 years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 for Asset-I and Asset-II to be 14 years and 12 years respectively.

Capital Cost

83. Regulation 19 of the 2019 Tariff Regulations provide as follows:

“19. Capital Cost: (1) The Capital cost of the generating station or the transmission



system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for 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) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) *Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) *Expenditure on account of change in law and force majeure events; and*
- (o) *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.*

(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.*
- (4) *The capital cost in case of existing or new hydro generating station shall also include:*
- (a) *cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
 - (b) *cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*
- (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 de-capitalization 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."*

84. The Petitioner has claimed capital cost of ₹2541.84 lakh as on 31.3.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital Expenditure ("ACE")

85. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provide as follows:



“24. Additional Capitalisation 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 de-capitalization.

(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.*

25. Additional Capitalisation within the original scope and after the cut-off date:

(1) *The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cut-off date may be admitted by the Commission, subject to prudence check:*

- (a) *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;*
- (b) *Change in law or compliance of any existing law;*
- (c) *Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (d) *Liability for works executed prior to the cut-off date;*
- (e) *Force Majeure events;*
- (f) *Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and*
- (g) *Raising of ash dyke as a part of ash disposal system.*

(2) *In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:*

- (a) *The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations.*
- (b) *The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;*
- (c) *The replacement of such asset or equipment is necessary on account of*
- (d) *The replacement of such asset or equipment has otherwise been allowed by the Commission.”*

86. The Petitioner has further submitted that the ACE projected to be incurred during 2019-20 and 2020-21 is on account of undischarged liability towards final payment/ withheld pay ment due to contractual exigencies for works executed within the cut-off date. The Petitioner has submitted the following ACE for Asset-I and Asset-II for the 2019-24 tariff period:

Assets	Projected ACE		
	2019-20	2020-21	2021-22
Asset-I	38.95	12.92	74.02
Asset-II	20.14	8.94	135.51

(₹ in lakh)

87. We have considered the submissions made by the Petitioner. ACE claimed by the Petitioner has been allowed under Regulation 25(1)(d) of the 2019 Tariff Regulations on account of liabilities for works executed prior to the cut-off date, subject to true-up as per actuals and on submission of documentary evidence(s). Accordingly, the capital cost considered for Asset-I and Asset-II for 2019-24 tariff period are as follows:

Particulars	Capital cost as on 1.4.2019	ACE 2019-24					Capital cost as on 31.3.2024
		2019-20	2020-21	2021-22	2022-23	2023-24	
Asset-I	600.32	38.95	12.92	74.02	0.00	0.00	726.21
Asset-II	1731.37	20.14	8.94	135.51	0.00	0.00	1895.96

(₹ in lakh)

Debt-Equity ratio

88. Regulation 18 of the 2019 Tariff Regulations provides as follows:

“18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff;
- the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment;
- any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.



Explanation-*The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*

(2) *The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.*

(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.*

(6) *Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”*

89. Debt-equity ratio considered for the purpose of computation of tariff for the 2019-24 tariff period is allowed as per Regulation 18(3) of the 2019 Tariff Regulations. The debt-equity ratio considered for the purpose of computation of tariff for the 2019-24 tariff period is as follows:



Asset-I						
Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	ACE 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	420.22	70.00	88.12	70.00	508.34	70.00
Equity	180.10	30.00	37.77	30.00	217.87	30.00
Total	600.32	100.00	125.89	100.00	726.21	100.00

Asset-II						
Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	ACE 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	1211.96	70.00	115.21	70.00	1327.17	70.00
Equity	519.41	30.00	49.38	30.00	568.79	30.00
Total	1731.37	100.00	164.59	100.00	1895.96	100.00

Depreciation

90. Regulation 33 of the 2019 Tariff Regulations provides as follows:

“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.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for development of the generating station:

Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:



Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

*(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.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of-

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or*
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or*
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life."*



91. WAROD has been worked out after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations and the same has been placed at Annexure-IX and Annexure-X. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. Depreciation allowed for Asset-I and Asset-II is as follows:

(₹ in lakh)

Asset-I						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Depreciation					
A	Opening Gross Block	600.32	639.27	652.19	726.21	726.21
B	ACE	38.95	12.92	74.02	0.00	0.00
C	Closing Gross Block (A+B)	639.27	652.19	726.21	726.21	726.21
E	Average Gross Block (A+C)/2	619.80	645.73	689.20	726.21	726.21
D	Freehold Land	0.00	0.00	0.00	0.00	0.00
F	Weighted average rate of Depreciation (WAROD) (in %)	6.33	6.33	6.33	6.33	6.33
G	Balance useful life of the asset (Year)	14	13	12	11	10
H	Lapsed life at the beginning of the year (Year)	1	2	3	4	5
I	Aggregate Depreciable Value	557.82	581.16	620.28	653.59	653.59
J	Depreciation during the year	39.23	40.87	43.63	45.97	45.97
K	Cumulative Depreciation	39.23	80.11	123.73	169.70	215.67
L	Remaining Depreciable Value (I-K)	518.59	501.05	496.55	483.89	437.92

(₹ in lakh)

Asset-II						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Depreciation					
A	Opening Gross Block	1731.37	1751.51	1760.45	1895.96	1895.96
B	ACE	20.14	8.94	135.51	0.00	0.00
C	Closing Gross Block (A+B)	1751.51	1760.45	1895.96	1895.96	1895.96
E	Average Gross Block (A+C)/2	1741.44	1755.98	1828.21	1895.96	1895.96
D	Freehold Land	0.00	0.00	0.00	0.00	0.00
F	Weighted average rate of Depreciation (WAROD) (in %)	6.33	6.33	6.33	6.33	6.33
G	Balance useful life of the asset (Year)	12	11	10	9	8
H	Lapsed life at the beginning of the year (Year)	3	4	5	6	7
I	Aggregate Depreciable Value	1567.30	1580.38	1645.39	1706.36	1706.36
J	Depreciation during the year	110.23	111.15	115.73	120.01	120.01



Asset-II						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
K	Cumulative Depreciation	401.51	512.67	628.39	748.41	868.42
L	Remaining Depreciable Value (I-K)	1165.78	1067.72	1016.99	957.96	837.94

Interest on Loan ("IoL")

92. Regulation 32 of the 2019 Tariff Regulations provides as follows:

"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.

(5a) *The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company 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."*



93. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period may be adjusted.

94. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. Accordingly, the floating rate of interest, if any, shall be considered at the time of true-up. IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for 2019-24 tariff period are as follows:

(₹ in lakh)

Asset-I						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Interest on Loan					
A	Gross Normative Loan	420.22	447.49	456.53	508.34	508.34
B	Cumulative Repayments upto Previous Year	0.00	39.23	80.11	123.73	169.70
C	Net Loan-Opening (A-B)	420.22	408.25	376.42	384.61	338.64
D	Additions	27.27	9.04	51.81	0.00	0.00
E	Repayment during the year	39.23	40.87	43.63	45.97	45.97
F	Net Loan-Closing (C+D-E)	408.25	376.42	384.61	338.64	292.67
G	Average Loan (C+F)/2	414.24	392.34	380.51	361.62	315.65
H	Weighted Average Rate of Interest on Loan (in %)	8.2763	8.2543	8.2477	8.2396	8.2286
I	Interest on Loan (G*H)	34.28	32.38	31.38	29.80	25.97

(₹ in lakh)

Asset-II						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Interest on Loan					
A	Gross Normative Loan	1211.96	1226.06	1232.32	1327.17	1327.17
B	Cumulative Repayments upto Previous Year	291.28	401.51	512.67	628.39	748.41
C	Net Loan-Opening (A-B)	920.68	824.54	719.65	698.78	578.77
D	Additions	14.10	6.26	94.86	0.00	0.00
E	Repayment during the year	110.23	111.15	115.73	120.01	120.01
F	Net Loan-Closing (C+D-E)	824.54	719.65	698.78	578.77	458.75
G	Average Loan (C+F)/2	872.61	772.10	709.21	638.77	518.76
H	Weighted Average Rate of Interest on Loan (in %)	8.0109	7.9968	8.0282	7.9977	7.8733
I	Interest on Loan (G*H)	69.90	61.74	56.94	51.09	40.84



Return on Equity (“RoE”)

95. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provides as follows:

“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 cutoff date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.

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.

(3) *The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%;”*



31. Tax on Return on Equity. (1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.2155) = 19.758\%$$

(ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;
- (b) Estimated Advance Tax for the year on above is Rs 240 crore;
- (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore / Rs 1000 Crore = 24%;
- (d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”



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

(₹ in lakh)

Asset-I						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Return on Equity					
A	Opening Equity	180.10	191.79	195.66	217.87	217.87
B	Additions	11.69	3.88	22.21	0.00	0.00
C	Closing Equity (A+B)	191.79	195.66	217.87	217.87	217.87
D	Average Equity (A+C)/2	185.94	193.72	206.76	217.87	217.87
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity (D*G)	34.92	36.39	38.83	40.92	40.92

(₹ in lakh)

Asset-II						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Return on Equity					
A	Opening Equity	519.41	525.45	528.13	568.79	568.79
B	Additions	6.04	2.68	40.65	0.00	0.00
C	Closing Equity (A+B)	525.45	528.13	568.79	568.79	568.79
D	Average Equity (A+C)/2	522.43	526.79	548.46	568.79	568.79
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity (D*G)	98.12	98.94	103.01	106.83	106.83

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

97. The Petitioner has submitted the claim of the O&M Expenses for Central Portion as 2% of the original project cost subject to actual expenditure at the time of truing-up. The original project cost for the Central Portion in case of Asset-I is ₹755.47 lakh. O&M Expenses claimed by the Petitioner for Asset-I for 2019-24 period are as follows:



Particulars	Asset-I				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M Expenses					
Communication System	15.11	15.11	15.11	15.11	15.11
Total Normative O&M Expenses (₹ in lakh)	15.11	15.11	15.11	15.11	15.11

98. The norms specified under Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

***“(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.”*

99. We have considered the submissions of the Petitioner. Taking into the consideration the fact that O&M Expenses claimed for 2019-24 tariff period are lower than the O&M Expenses allowed for 2014-19 tariff period, the O&M Expenses claimed for 2019-24 tariff period are allowed subject to truing up based on the actual expenditure. The Petitioner is directed to submit actual O&M Expenses in respect of the assets duly certified by the Auditor at the time of truing up of tariff of 2019-24 period.

The O&M Expenses allowed in respect of the Asset-1 are as follows: O

Particulars	Asset-I				
	2019-20	2020-21	2021-22	2022-23	2023-24
Communication system	15.11	15.11	15.11	15.11	15.11
Total O&M Expenses allowed (₹ in lakh)	15.11	15.11	15.11	15.11	15.11

Interest on Working Capital (“IWC”)

100. Regulation 34(1)(c), Regulation 34(3), Regulation 34(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
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. Definitions. - In these regulations, unless the context otherwise requires:-

‘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;”

101. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (RoI) considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and from 2021-22 onwards has been considered as 10.50% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon are as follows:

(₹ in lakh)						
Asset-I						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Interest on Working Capital					
A	Working Capital for O&M Expenses (O&M Expenses for one month)	1.26	1.26	1.26	1.26	1.26
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	2.27	2.27	2.27	2.27	2.27
C	Working Capital for Receivables	15.47	15.65	16.15	16.51	15.99



Asset-I						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	(Equivalent to 45 days of annual transmission charges)					
D	Total Working Capital	19.00	19.17	19.68	20.03	19.51
E	Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
F	Interest on Working Capital	2.29	2.16	2.07	2.10	2.05

(₹ in lakh)

Asset-II						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Interest on Working Capital					
A	Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
C	Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	34.73	33.99	34.43	34.71	33.34
D	Total Working Capital	34.73	33.99	34.43	34.71	33.34
E	Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
F	Interest on Working Capital	4.18	3.82	3.62	3.65	3.50

Annual Fixed Charges of 2019-24 Tariff Period

102. The transmission charges allowed for the 2019-24 tariff period are as follows:

(₹ in lakh)

Asset-I						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Annual Transmission Charges					
A	Depreciation	39.23	40.87	43.63	45.97	45.97
B	Interest on Loan	34.28	32.38	31.38	29.80	25.97
C	Return on Equity	34.92	36.39	38.83	40.92	40.92
D	Interest on Working Capital	2.29	2.16	2.07	2.10	2.05
E	O&M Expenses	15.11	15.11	15.11	15.11	15.11
F	Total (A+B+C+D+E)	125.84	126.91	131.02	133.90	130.02

(₹ in lakh)

Asset-II						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Annual Transmission Charges					
A	Depreciation	110.23	111.15	115.73	120.01	120.01
B	Interest on Loan	69.90	61.74	56.94	51.09	40.84
C	Return on Equity	98.12	98.94	103.01	106.83	106.83
D	Interest on Working Capital	4.18	3.82	3.62	3.65	3.50
E	O&M Expenses	0.00	0.00	0.00	0.00	0.00
F	Total (A+B+C+D+E)	282.43	275.65	279.30	281.58	271.18



Filing Fee and the Publication Expenses

103. The Petitioner has prayed for reimbursement of fee paid by it for filing the Petition and publication expenses.

104. We have considered the submissions of the Petitioner. 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 & RLDC Fees and Charges

105. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Goods and Services Tax

106. The Petitioner has submitted that, if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

107. We have considered the submissions of the Petitioner. Since GST is not levied on transmission service at present, we are of the view that the Petitioner's prayer is premature.



Security Expenses

108. 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 IWC.

109. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission vide order dated 3.8.2021. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Capital Spares

110. 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 Fees and Charges and Transmission Charges

111. The fee and charges of 2014-19 and 2019-24 tariff periods of Asset-A2 and transmission charges Asset-B2 and Asset-C2, which are part of State sector, approved in this order shall be shared from the respective States in accordance with Regulation 43 of the 2014 Tariff Regulations and Regulation 57 of the 2019 Tariff Regulations respectively.

112. The fee and charges of 2014-19 and 2019-24 tariff periods of Asset-A1 and transmission charges Asset-B1 and Asset-C1, which are part of Central sector,



approved in this order shall be shared in accordance with Regulation 43 of the 2014 Tariff Regulations and Regulation 57 of the 2019 Tariff Regulations respectively.

113. To summarise:

- (a) The trued-up Annual Fees and Charges allowed for Asset-A1 and Asset-A2 for 2014-19 tariff period are:

(₹ in lakh)

Asset-A1					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fees & Charges	45.24	47.55	64.51	61.08	35.76

(₹ in lakh)

Asset-A2					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fees & Charges	13.34	13.34	13.33	17.15	26.32

- (b) The Annual Fees and Charges approved for Asset-A1 and Asset-A2 for 2019-24 tariff period are:

(₹ in lakh)

Asset-A1					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fees & Charges	23.51	25.37	25.34	27.62	27.62

(₹ in lakh)

Asset-A2					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fees & Charges	28.27	28.43	28.44	30.38	30.38

- (c) The trued-up AFC allowed for 2014-19 tariff period are as follows:

(₹ in lakh)

Assets	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-B1	15.19	15.82	21.15	20.66	10.33
Asset-B2	147.79	145.30	140.45	156.89	174.18

(₹ in lakh)

Assets	2018-19
Asset-C1	218.09
Asset-C2	30.01

- (d) AFC allowed for the 2019-24 tariff period is as follows:



(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Asset-I	125.84	126.91	131.02	133.90	130.02
Asset-II	282.43	275.65	279.30	281.58	271.18

114. The Annexure to this order form part of this order.

115. This order disposes of Petition No. 164/TT/2022 in terms of the above discussion and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member



Annexure-I**Asset-A1****(₹ in lakh)**

2014-19					
Particulars	Additional Capital Expenditure				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Capital Cost	67.80	67.80	67.80	89.16	134.09
Opening Gross Notional Loan	47.46	47.46	47.46	62.41	93.86
Opening Gross Equity	20.34	20.34	20.34	26.75	40.23
Recovered Gross Capital Cost (As on 1st April)	1.26	3.47	5.92	8.63	9.95
Recovered Gross Notional Loan	1.02	2.79	4.73	6.84	7.87
Recovered Gross Equity	0.24	0.68	1.19	1.79	2.08
Opn.Net Capital Cost	66.54	64.33	61.88	80.53	124.14
Opn. Net Notional Loan	46.44	44.67	42.73	55.57	85.99
Opn. Net Equity	20.10	19.66	19.15	24.96	38.15
Recovered Capital Cost (During the Year)	2.21	2.45	2.71	1.32	7.52
Recocered Notional Loan	1.77	1.93	2.11	1.03	5.78
Recovered Equity	0.44	0.51	0.60	0.30	1.73
Cl. Net Capital Cost	64.33	61.88	59.17	79.21	116.62
Cl. Net Notional Loan	44.67	42.73	40.62	54.54	80.21
Cl. Net Equity	19.66	19.15	18.55	24.67	36.41
Additional Capital Cost	0.00	0.00	21.36	44.93	1.25
Additional Notional Loan	0.00	0.00	14.95	31.45	0.88
Additional Equity	0.00	0.00	6.41	13.48	0.38
Years	14.00	13.00	12.00	11.00	10.00
Months	168.00	156.00	144.00	132.00	120.00



Weighted Average Rate of Interest p.a.	8.7283%	8.7283%	8.7181%	8.6089%	8.2325%
Weighted Average Rate of Interest p.m.	0.7274%	0.7274%	0.7265%	0.7174%	0.6860%
Monthly Recovery Factors -Loan	0.010331	0.010741	0.011222	0.011746	0.012256
Monthly Capital Recovery Charge - Loan	0.48	0.48	0.48	0.65	1.05
Annual Capital Recovery Charge - Loan	5.76	5.76	5.75	7.83	12.65
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors -Equity	0.014608	0.014933	0.015332	0.015825	0.016441
Monthly Capital Recovery Charge - Equity	0.29	0.29	0.29	0.40	0.63
Annual Capital Recovery Charge - Equity	3.52	3.52	3.52	4.74	7.53
Monthly Capital Recovery Charge - Total	0.77	0.77	0.77	1.05	1.68
Annual Capital Recovery Charge - Total	9.28	9.28	9.28	12.57	20.17
Interest on Working Capital					
Particular	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares (15% of O&M)	5.08	5.41	7.82	6.85	2.23
O&M Expenses (1 Month)	2.82	3.01	4.35	3.81	1.24
Receivables (2 months)	7.54	7.92	10.75	10.18	6.06
Total	15.44	16.34	22.92	20.84	9.53
Rate of Interest on Working Capital	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working Capital (Annualized)	2.08	2.21	3.09	2.81	1.29
Non-Microwave: Central Portion - Charges					



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Capital Recovery Charge - Loan	5.76	5.76	5.75	7.83	12.65
Annual Capital Recovery Charge - Equity	3.52	3.52	3.52	4.74	7.53
Annual Capital Recovery Charge - Total	9.28	9.28	9.28	12.57	20.17
O&M Expenses (as admitted in instant order)	33.87	36.06	52.14	45.69	14.89
Interest on Working Capital ¹	2.08	2.21	3.09	2.81	1.29
Total Fee & Charges (Annualized)	45.24	47.55	64.51	61.08	36.35



Annexure-II**Asset-A1****(₹ in lakh)**

2019-24					
Particulars	Additional Capital Expenditure				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Capital Cost – Central Portion	135.34	144.38	144.38	153.18	153.18
Opening Gross Notional Loan	94.74	101.07	101.07	107.23	107.23
Opening Gross Equity	40.60	43.31	43.31	45.95	45.95
Recovered Gross Capital Cost (As on 1 st April)	17.47	25.86	35.91	46.54	60.03
Recovered Gross Notional Loan	13.65	20.00	27.48	35.12	44.82
Recovered Gross Equity	3.81	5.86	8.43	11.42	15.21
Opn.Net Capital Cost	117.87	118.53	108.48	106.65	93.16
Opn. Net Notional Loan	81.09	81.07	73.59	72.12	62.41
Opn. Net Equity	36.79	37.46	34.89	34.54	30.75
Recovered Capital Cost (During the Year)	8.39	10.05	10.63	13.49	14.94
Recovered Notional Loan	6.35	7.48	7.63	9.70	10.53
Recovered Equity	2.04	2.57	3.00	3.78	4.41
Cl. Net Capital Cost	109.48	108.48	97.85	93.16	78.22
Cl. Net Notional Loan	74.74	73.59	65.96	62.41	51.88
Cl. Net Equity	34.75	34.89	31.90	30.75	26.34
Additional Capital Cost	9.05	0.00	8.80	0.00	0.00
Additional Notional Loan	6.34	0.00	6.16	0.00	0.00



Additional Equity	2.72	0.00	2.64	0.00	0.00
Years	9.00	8.00	7.00	6.00	5.00
Months	108.00	96.00	84.00	72.00	60.00
Weighted Average Rate of Interest p.a.	8.2168%	8.2018%	8.2018%	8.2018%	8.2018%
Weighted Average Rate of Interest p.m.	0.6847%	0.6835%	0.6835%	0.6835%	0.6835%
Monthly Recovery Factors -Loan	0.013131	0.014239	0.015687	0.017632	0.020373
Monthly Capital Recovery Charge – Loan	1.06	1.15	1.15	1.27	1.27
Annual Capital Recovery Charge – Loan	12.78	13.85	13.85	15.26	15.26
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors -Equity	0.017224	0.018236	0.019578	0.021417	0.024053
Monthly Capital Recovery Charge – Equity	0.63	0.68	0.68	0.74	0.74
Annual Capital Recovery Charge – Equity	7.60	8.20	8.20	8.88	8.88
Monthly Capital Recovery Charge - Total	1.70	1.84	1.84	2.01	2.01
Annual Capital Recovery Charge - Total	20.38	22.05	22.05	24.13	24.13
Interest on Working Capital					
Particular	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (1 Month)	0.23	0.24	0.24	0.26	0.26
Maintenance Spares (15% of O&M)	0.41	0.43	0.43	0.46	0.46
Receivables (45 days)	2.89	3.13	3.12	3.41	3.40
Total	3.52	3.80	3.80	4.12	4.11
Rate of Interest on Working Capital	12.05%	11.25%	10.50%	10.50%	10.50%
Total Interest on Working Capital (Annualized)	0.42	0.43	0.40	0.43	0.43



Fee & Charges (2019-24) (Applicable)	Central Portion – Charges				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Capital Recovery Charge – Loan	12.78	13.85	13.85	15.26	15.26
Annual Capital Recovery Charge – Equity	7.60	8.20	8.20	8.88	8.88
Annual Capital Recovery Charge - Total	20.38	22.05	22.05	24.13	24.13
O&M Expenses (2% of the Gross Capital Cost)	2.71	2.89	2.89	3.06	3.06
Interest on Working Capital	0.42	0.43	0.40	0.43	0.43
Total Fee & Charges (Annualized)	23.51	25.37	25.34	27.63	27.63



Annexure-III**Asset-A2****(₹ in lakh)**

2014-19					
Particulars	Additional Capital Expenditure				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Capital Cost	97.55	97.56	97.56	122.93	182.37
Opening Gross Notional Loan	68.29	68.29	68.29	86.05	127.66
Opening Gross Equity	29.27	29.27	29.27	36.88	54.71
Recovered Gross Capital Cost (As on 1st April)	2.54	5.25	8.25	11.58	16.42
Recovered Gross Notional Loan	2.05	4.23	6.62	9.23	12.99
Recovered Gross Equity	0.49	1.02	1.63	2.35	3.43
Opn.Net Capital Cost	95.02	92.31	89.31	111.35	165.95
Opn. Net Notional Loan	66.24	64.06	61.67	76.82	114.66
Opn. Net Equity	28.78	28.25	27.64	34.53	51.29
Recovered Capital Cost (During the Year)	2.71	3.00	3.33	4.84	8.22
Recocered Notional Loan	2.18	2.39	2.61	3.76	6.35
Recovered Equity	0.53	0.62	0.72	1.08	1.87
Cl. Net Capital Cost	92.31	89.31	85.98	106.51	157.73
Cl. Net Notional Loan	64.06	61.67	59.06	73.06	108.32
Cl. Net Equity	28.25	27.64	26.92	33.45	49.42
Additional Capital Cost	0.00	0.00	25.37	59.44	2.74
Additional Notional Loan	0.00	0.00	17.76	41.61	1.92
Additional Equity	0.00	0.00	7.61	17.83	0.82
Years (Capital to be recovered up to 31.07.2017)	15.00	14.00	13.00	12.00	11.00
Months	180.00	168.00	156.00	144.00	132.00
Weighted Average Rare of Interest p.a.	9.0458%	9.0458%	9.0394%	8.8552%	8.3749%



Weighted Average Rate of Interest p.m.	0.7538%	0.7538%	0.7533%	0.7379%	0.6979%
Monthly Recovery Factors -Loan	0.010170	0.010516	0.010919	0.011299	0.011618
Monthly Capital Recovery Charge - Loan	0.67	0.67	0.67	0.87	1.33
Annual Capital Recovery Charge - Loan	8.08	8.08	8.08	10.42	15.99
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors -Equity	0.014340	0.014608	0.014933	0.015332	0.015825
Monthly Capital Recovery Charge - Equity	0.41	0.41	0.41	0.53	0.81
Annual Capital Recovery Charge - Equity	4.95	4.95	4.95	6.35	9.74
Monthly Capital Recovery Charge - Total	1.09	1.09	1.09	1.40	2.14
Annual Capital Recovery Charge - Total	13.04	13.04	13.03	16.77	25.73
Interest on Working Capital					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares (15% of O&M)	0.00	0.00	0.00	0.00	0.00
O&M Expenses (1 Month)	0.00	0.00	0.00	0.00	0.00
Receivables (2 months)	2.22	2.22	2.22	2.86	4.39
Total	2.22	2.22	2.22	2.86	4.39
Rate of Interest on Working Capital	13.50%	13.50%	13.50%	13.50%	13.50%
Total Interest on Working Capital (Annualized)	0.30	0.30	0.30	0.39	0.59
State Portion - Charges					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19



Annual Capital Recovery Charge - Loan	8.08	8.08	8.08	10.42	15.99
Annual Capital Recovery Charge - Equity	4.95	4.95	4.95	6.35	9.74
Annual Capital Recovery Charge - Total	13.04	13.04	13.03	16.77	25.73
O&M Expenses (as admitted in instant order)	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital ¹	0.30	0.30	0.30	0.39	0.59
Total Fee & Charges (Annualized)	13.34	13.34	13.33	17.15	26.32



Annexure-IV**Asset-A2****(₹ in lakh)**

2019-24					
Particulars	Additional Capital Expenditure				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Capital Cost - Central Portion	185.11	186.15	186.31	194.14	194.14
Opening Gross Notional Loan	129.58	130.25	130.35	135.43	135.43
Grant In Aid	55.54	55.90	55.96	58.71	58.71
Recovered Gross Capital Cost (As on 1st April)	24.64	36.00	48.67	62.11	78.74
Recovered Gross Notional Loan	19.34	27.92	37.31	46.91	58.77
Recovered Gross Equity	5.30	8.09	11.36	15.19	19.96
Opn.Net Capital Cost	160.47	150.14	137.64	132.03	115.40
Opn. Net Notional Loan	110.23	102.33	93.04	88.52	76.65
Opn. Net Equity	50.24	47.81	44.59	43.52	38.75
Recovered Capital Cost (During the Year)	11.37	12.67	13.43	16.63	18.45
Recocered Notional Loan	8.58	9.39	9.60	11.86	12.89
Recovered Equity	2.79	3.28	3.83	4.77	5.56
Cl. Net Capital Cost	149.11	137.47	124.20	115.40	96.95
Cl. Net Notional Loan	101.66	92.94	83.44	76.65	63.76
Cl. Net Equity	47.45	44.54	40.76	38.75	33.19
Additional Capital Cost	0.96	0.15	7.25	0.00	0.00



Additional Notional Loan	0.67	0.11	5.08	0.00	0.00
Additional Equity	0.36	0.06	2.76	0.00	0.00
Years	9.00	8.00	7.00	6.00	5.00
Months	108.00	96.00	84.00	72.00	60.00
Weighted Average Rate of Interest p.a.	8.3600%	8.3452%	8.3452%	8.3452%	8.3452%
Weighted Average Rate of Interest p.m.	0.6967%	0.6954%	0.6954%	0.6954%	0.6954%
Monthly Recovery Factors -Loan	0.013206	0.014313	0.015759	0.017702	0.020442
Monthly Capital Recovery Charge - Loan	1.46	1.46	1.47	1.57	1.57
Annual Capital Recovery Charge - Loan	17.47	17.58	17.60	18.80	18.80
Rate of Return on Equity p.a.	15.500%	15.500%	15.500%	15.500%	15.500%
Rate of Return on Equity p.m.	1.292%	1.292%	1.292%	1.292%	1.292%
Monthly Recovery Factors -Equity	0.017224	0.018236	0.019578	0.021417	0.024053
Monthly Capital Recovery Charge - Equity	0.87	0.87	0.87	0.93	0.93
Annual Capital Recovery Charge - Equity	10.38	10.46	10.48	11.18	11.18
Monthly Capital Recovery Charge - Total	2.32	2.34	2.34	2.50	2.50
Annual Capital Recovery Charge - Total	27.85	28.04	28.07	29.99	29.99
Interest on Working Capital					
Particular	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (1 Month)	0.00	0.00	0.00	0.00	0.00
Maintenance Spares (15% of O&M)	0.00	0.00	0.00	0.00	0.00
Receivables (45 days)	3.48	3.51	3.51	3.75	3.74
Total	3.48	3.51	3.51	3.75	3.74
Rate of Interest on Working Capital	12.05%	11.25%	10.50%	10.50%	10.50%



Total Interest on Working Capital (Annualized)	0.42	0.39	0.37	0.39	0.39
Fee & Charges (2019-24) (Applicable)	Non-Microwave: State Portion - Charges				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Capital Recovery Charge - Loan	17.47	17.58	17.60	18.80	18.80
Annual Capital Recovery Charge - Equity	10.38	10.46	10.48	11.18	11.18
Annual Capital Recovery Charge - Total	27.85	28.04	28.07	29.99	29.99
O&M Expenses (2% of the Gross Capital Cost)	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.42	0.39	0.37	0.39	0.39
Total Fee & Charges (Annualized)	28.27	28.43	28.44	30.38	30.38



Annexure-V**Asset-B1**

2014-19	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)					Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
Capital Expenditure		2014-15	2015-16	2016-17	2018-19	Total			2014-15	2015-16	2016-17	2017-18	2018-19
PLCC	21.95	0.24	-	1.77	1.11	10.49	32.44	6.33%	1.40	1.40	1.46	1.75	2.02
Total	21.95	0.24	-	1.77	1.11	10.49	32.44		1.40	1.40	1.46	1.75	2.02
							Average Gross Block (₹ in lakh)		22.07	22.19	23.07	27.64	31.88
							Weighted Average Rate of Depreciation		6.33%	6.33%	6.33%	6.33%	6.33%



Annexure-VI**Asset-B2**

2014-19	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)					Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
Capital Expenditure		2014-15	2015-16	2016-17	2018-19	Total			2014-15	2015-16	2016-17	2017-18	2018-19
PLCC	794.25	21.17	-	-	9.46	273.76	1068.01	6.33%	50.95	51.62	51.62	59.31	67.31
Total	794.25	21.17	-	-	9.46	273.76	1068.01		50.95	51.62	51.62	59.31	67.31
Average Gross Block (₹ in lakh)									804.98	815.42	815.42	936.99	1063.28
Weighted Average Rate of Depreciation									6.33%	6.33%	6.33%	6.33%	6.33%



Annexure-VII**Asset-C1**

2014-19	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)
Capital Expenditure		2018-19	Total			2018-19
PLCC	543.69	24.20	24.20	567.89	6.33%	35.18
Total	543.69	24.20	24.20	567.89	Total	35.18
				Average Gross Block (₹ in lakh)		555.79
				Weighted Average Rate of Depreciation		6.33%



Annexure-VIII**Asset-C2**

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014/COD (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)
		2018-19	Total			2018-19
PLCC	663.36	11.53	11.53	674.89	6.33%	41.99
Total	663.36	11.53	11.53	674.89	Total	41.99
				Average Gross Block (₹ in lakh)		663.36
				Weighted Average Rate of Depreciation		6.33%



Annexure-IX**Asset-I**

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Projected ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
		2019-20	Total			2019-20	2020-21	2021-22	2022-23	2023-24
PLCC	600.32	74.02	74.02	674.34	6.33%	39.23	40.87	43.63	45.97	45.97
Total	600.32	74.02	74.02	674.34		39.23	40.87	43.63	45.97	45.97
Average Gross Block (₹ in lakh)						619.80	645.73	689.20	726.21	726.21
Weighted Average Rate of Depreciation						6.33%	6.33%	6.33%	6.33%	6.33%



Annexure-X**Asset-II**

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Projected ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
		2019-20	Total			2019-20	2020-21	2021-22	2022-23	2023-24
PLCC	1731.37	135.51	135.51	1866.88	6.33%	110.23	111.15	115.73	120.01	120.01
Total	1731.37	135.51	135.51	1866.88		110.23	111.15	115.73	120.01	120.01
Average Gross Block (₹ in lakh)						1741.44	1755.98	1828.21	1895.96	1895.96
Weighted Average Rate of Depreciation						6.33%	6.33%	6.33%	6.33%	6.33%

