

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO. 4/TT/2020

Coram:

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

Date of Order : 04.02.2021

In the Matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for **Asset-A:** LILO of one circuit (Ckt-I) of 400 kV D/C Maithon-Jamshedpur line at Mejia "B"-TPS including PLCC Equipment (excluding wave trap) for the transmission line; **Asset-B:** 400 kV D/C Koderma TPS-Biharsharif transmission line and 02 nos. associated line bays at Biharsharif Sub-station; and **Asset-C:** 400 kV D/C Maithon RB-Maithon (PG) transmission line and associated Bay Extension at Maithon Sub-station under the "Start-up Power to DVC and Maithon Right Bank Generation Projects" in the Eastern Region.

And in the Matter of:

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

.....Petitioner

Versus

1. Bihar State Power (Holding) Company Ltd.,
(Formerly Bihar State Electricity Board-BSEB)
Vidyut Bhawan, Bailey Road,
Patna- 800001.
2. West Bengal State Electricity Distribution Company Ltd.,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Kolkata-700091.



3. Grid Corporation of Orissa Ltd.,
Shahid Nagar, Bhubaneswar- 751007.
4. Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834002.
5. Damodar Valley Corporation,
DVC Tower, Maniktala,
Civic Centre, VIP Road,
Kolkata-700054.
6. Power Department,
Government of Sikkim, Gangtok-737101.
7. NTPC Ltd.,
NTPC Bhawan Scope Complex,
7 Institutional Area,
Lodhi Road,
New Delhi-110003.
8. Haryana Power Purchase Centre,
Shakti Bhawan, Sector-6,
Panchkula (Haryana)-134109.
9. Delhi Transco Ltd.,
Shakti Sadan, Kotla Road,
New Delhi-110002.

...Respondent(s)

For Petitioner: Shri S S Raju, PGCIL
Shri A K Verma, PGCIL
Shri B. Dash, PGCIL
Shri Amit K. Jain, PGCIL

For Respondent: Shri Manish Kr. Choudhary, Advocate, BSPHCL

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the Petitioner”), a deemed transmission licensee, for truing up of the tariff of the period from 1.4.2014 to 31.3.2019 under Central



Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following assets under the “start-up power to DVC and Maithon Right Bank Generation Projects” in the Eastern Region (hereinafter referred to as “the transmission project”).

Asset-A: LILO of one circuit (Ckt-I) of 400 kV D/C Maithon-Jamshedpur line at Mejia “B” TPS including PLCC Equipment (excluding wave trap) for the transmission line;

Asset-B: 400 kV D/C Koderma TPS-Biharsharif transmission line and 02 nos. associated line bays at Biharsharif Sub-station; and

Asset-C: 400 kV D/C Maithon RB-Maithon (PG) transmission line and associated Bay Extension at Maithon Sub-station.

2. The Petitioner has made the following prayers:

“i. Approve the trued-up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9.1 and 10.0 above.

ii. Approve the Completion cost and additional capitalization incurred during 2014- 19.

iii. Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9.1 and 10.0 above for respective block.

iv. 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.

v. Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.



vi. 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 respondents.

vii. Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 10.6 above.

viii. Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

ix. Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

and pass such other relief as the 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 under:

a. The Investment Approval (IA) for the transmission project was accorded by the Board of Directors of the Petitioner vide letter dated 29.4.2008 at an estimated cost of ₹29049.00 lakh, which included Interest During Construction (IDC) of ₹1633.00 lakh. Subsequently, approval of the Revised Cost Estimate (RCE) was accorded by the Board of Directors on 23.1.2012 at an estimated cost of ₹39160.00 lakh, which included IDC of ₹2617.00 lakh.

b. The entire scope of the work covered under the transmission project has been covered in the instant petition. The assets are as under:

For Mejia-B

- a) LILO of one circuit of 400 kV D/C Maithon-Jamshedpur line at Mejia
- b) 2 nos. of 400 kV bays at Mejia*
- c) PLCC Equipment (Excl. Wave Trap) for LILO of one circuit of 400 kV D/C Maithon-Jamshedpur line at Mejia-B TPS

For Koderma

- a) Koderma-Biharshariff 400 kV D/C (Quad) line
- b) 2 nos. of 400 kV bays at Biharshariff
- c) 2 nos. of 400 kV bays at Koderma*



For Maithon-RB

- a) Maithon-RB-Maithon 400 kV D/C line
- b) 2 nos. of 400 kV bays at Maithon
- c) 2 nos. of 400 kV bays at Maithon-RB*

**These 400 kV bays at generation switchyard would be under the scope of DVC.*

- c. As per investment approval, the instant transmission assets (Assets-A, B and C) were scheduled to be put into commercial operation within 24 months from the date of investment approval. The investment approval was accorded on 29.4.2008 and hence the scheduled date of commercial operation was 1.5.2010. However, Assets-A, B and C were put into commercial operation on 1.2.2010, 1.6.2011 and 1.10.2010 respectively. There was no time over-run in case of Asset-A. However, there was a time over-run of 13 months (395 days) and 5 months in case of Asset-B and Asset-C respectively. The time over-run of 13 months in the case of Asset-B was condoned by the Commission vide order dated 27.09.2011 in Petition No. 100/2011. The time over-run of 4 months out of total time over-run of 5 months in the case of Asset-C was not condoned by the Commission vide order dated 29.11.2011 in Petition No. 317/2010.
- d. The dates of commercial operation of the assets along with the time over-run are as under:

Asset	SCOD	COD	Time over-run	Time over-run condoned
Asset-A	1.5.2010	1.2.2010	Nil	-
Asset-B	1.5.2010	1.6.2011	13 months	13 months
Asset-C	1.5.2010	1.10.2010	5 months	4 months

- e. The annual transmission charges for Assets-A, B and C for the period from COD up to 31.3.2014 were approved by the Commission in Petition No. 232/2010, Petition No. 100/2011 and Petition No. 317/2010 respectively subject to the Petitioner filing revised petition after obtaining approval of Revised Cost Estimates (RCE).



f. The tariff from 1.2.2010 to 31.3.2014 for Asset-A, from 1.6.2011 to 31.3.2014 for Asset-B and from 1.10.2010 to 31.3.2014 for Asset-C was allowed after approval of RCE vide order dated 13.5.2015 in Petition No. 106/TT/2013 in accordance with the 2009 Tariff Regulations.

g. Further, the transmission tariff for the instant assets for the 2014-19 period was allowed vide order dated 24.2.2016 in Petition No. 297/TT/2015 and details of the same is as under:

(₹ in lakh)						
Asset	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A	Annual Fixed Charges (AFC) approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	1061.89	1037.62	1007.31	977.02	946.78
Asset-B		4322.23	4214.25	4100.92	3987.99	3875.31
Asset-C		1094.40	1075.35	1051.61	1028.01	1004.56

4. The Respondents are distribution licensees and power departments, who are procuring transmission services from the Petitioner and are mainly beneficiaries of the Eastern Region.

5. The Petitioner has served the petition on the Respondents and notice of this petition has been published in newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments/ objections have been received from the general public in response to the aforesaid notice published in the newspapers. A Notice dated 14.1.2020 directing the beneficiaries/ Respondents to file reply in the matter was also posted on the Commission's website. None of the Respondents have filed reply to the petition.

6. This order is issued considering the submissions made by the Petitioner vide affidavits dated 18.10.2019, 28.5.2020 and 14.9.202.



7. The hearing in this matter was held on 24.8.2020 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 FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD

9. The details of the trued-up transmission charges claimed by the Petitioner in respect of the transmission assets are as under:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	339.81	339.81	339.81	339.81	339.81
Interest on Loan	266.32	235.62	204.91	174.07	143.49
Return on Equity	390.25	392.04	391.85	391.85	392.89
Interest on Working Capital	24.87	24.27	23.63	22.99	22.38
O&M Expenses	35.09	36.27	37.47	38.71	40.00
Total	1056.34	1028.01	997.67	967.43	938.57

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1320.83	1320.83	1320.83	1320.83	1320.83
Interest on Loan	1182.97	1064.22	945.42	826.57	707.74
Return on Equity	1471.34	1478.08	1477.34	1477.34	1481.31
Interest on Working Capital	104.66	102.51	100.21	97.94	95.78
O&M Expenses	238.15	246.03	254.15	262.64	271.35
Total	4317.95	4211.67	4097.95	3985.32	3877.01

(₹ in lakh)					
Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	308.97	308.97	308.97	308.97	308.97
Interest on Loan	265.82	237.68	209.49	181.16	153.06
Return on Equity	343.70	345.28	345.10	345.10	346.03
Interest on Working Capital	29.03	28.68	28.30	27.93	27.59
O&M Expenses	142.87	147.63	152.52	157.59	162.81
Total	1090.39	1068.24	1044.38	1020.75	998.46

10. The details of the trued-up Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission assets are as under:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	2.92	3.02	3.12	3.23	3.33



Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance spares	5.26	5.44	5.62	5.81	6.00
Receivables	176.06	171.34	166.28	161.24	156.43
Total working capital	184.24	179.80	175.02	170.28	165.76
Rate of interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	24.87	24.27	23.63	22.99	22.38

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	19.85	20.50	21.18	21.89	22.61
Maintenance spares	35.72	36.90	38.12	39.40	40.70
Receivables	719.66	701.95	682.99	664.22	646.17
Total working capital	775.23	759.35	742.29	725.51	709.48
Rate of interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	104.66	102.51	100.21	97.94	95.78

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	11.91	12.30	12.71	13.13	13.57
Maintenance spares	21.43	22.14	22.88	23.64	24.42
Receivables	181.73	178.04	174.06	170.13	166.41
Total working capital	215.07	212.48	209.65	206.90	204.40
Rate of interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	29.03	28.68	28.30	27.93	27.59

Capital Cost

11. The Commission *vide* order dated 24.2.2016 in Petition No. 297/TT/2015 approved the transmission tariff for the instant assets for the 2014-19 tariff period based on admitted capital cost of ₹6421.30 lakh, ₹24990.88 lakh and ₹5837.83 lakh as on 31.3.2014 for Asset-A, Asset-B and Asset-C respectively. The Petitioner has submitted that the tariff for 2014-19 tariff period is worked out based on the admitted capital cost as allowed by the Commission *vide* order dated 24.2.2016 in Petition No. 297/TT/2015 and the same has been considered as opening capital cost as on 1.4.2014 for determination of tariff in accordance with the Regulation 9 of the 2014 Tariff Regulations.



Additional Capital Expenditure (ACE)

12. The Commission *vide* order dated 24.2.2016 in Petition No. 297/TT/2015 approved ACE of ₹65.74 lakh, ₹60.00 lakh and ₹52.40 lakh for Asset-A, Asset-B and Asset-C respectively for the 2014-19 tariff period towards balance and retention payments under Regulation 14(3)(v) of the 2014 Tariff Regulations.

13. However, in the instant petition the Petitioner has not claimed any ACE in the 2014-19 tariff period. We have considered the submission of the Petitioner. The capital cost for the 2014-19 period is admitted as under:

Asset	(₹ in lakh)	
	Capital Cost as on 1.4.2014 (₹ in lakh)	Capital Cost as on 31.3.2019 (₹ in lakh)
Asset-A	6421.30	6421.30
Asset-B	24990.88	24990.88
Asset-C	5837.83	5837.83

Debt-Equity ratio

14. The Petitioner has claimed the debt-equity ratio of 70:30 as on 31.3.2014 as approved by the Commission *vide* order dated 24.2.2016 in Petition No. 297/TT/2015 without ACE. The same has been considered as opening debt-equity ratio as on 1.4.2014. The details of the debt-equity ratio considered by the Commission are as under:

Asset	Particulars	Amount (in ₹ lakh)	(%)
Asset-A	Debt	4494.91	70.00
	Equity	1926.39	30.00
	Total	6421.30	100.00
Asset	Particulars	Amount (in ₹ lakh)	(%)
Asset-B	Debt	17493.63	70.00
	Equity	7497.26	30.00
	Total	24990.88	100.00
Asset	Particulars	Amount (in ₹ lakh)	(%)
Asset-C	Debt	4086.49	70.00



Asset	Particulars	Amount (in ₹ lakh)	(%)
	Equity	1751.34	30.00
	Total	5837.83	100.00

15. The details of the debt-equity as on 1.4.2014 and 31.3.2019 for the instant assets considered for the purpose of tariff for the 2014-19 tariff period is as follows:

(₹ in lakh)

Asset	Funding	Capital cost as on 1.4.2014	(%)	ACE during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Asset-A	Debt	4494.91	70.00	0.00	70.00	4494.91	70.00
	Equity	1926.39	30.00	0.00	30.00	1926.39	30.00
	Total	6421.30	100.00	0.00	100.00	6421.30	100.00

(₹ in lakh)

Asset	Funding	Capital cost as on 1.4.2014	(%)	ACE during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Asset-B	Debt	17493.63	70.00	0.00	70.00	17493.63	70.00
	Equity	7497.26	30.00	0.00	30.00	7497.26	30.00
	Total	24990.88	100.00	0.00	100.00	24990.88	100.00

(₹ in lakh)

Asset	Funding	Capital cost as on 1.4.2014	(%)	ACE during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Asset-C	Debt	4086.49	70.00	0.00	70.00	4086.49	70.00
	Equity	1751.34	30.00	0.00	30.00	1751.34	30.00
	Total	5837.83	100.00	0.00	100.00	5837.83	100.00

Interest on Loan (IoL)

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

17. Accordingly, IoL has been calculated based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. IoL allowed for the transmission assets is as under:

(₹ in lakh)



Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan					
Gross Normative Loan	4494.91	4494.91	4494.91	4494.91	4494.91
Cumulative Repayments up to Previous Year	1362.51	1702.32	2042.13	2381.93	2721.74
Net Loan-Opening	3132.40	2792.59	2452.78	2112.98	1773.17
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	339.81	339.81	339.81	339.81	339.81
Net Loan-Closing	2792.59	2452.78	2112.98	1773.17	1433.36
Average Loan	2962.50	2622.69	2282.88	1943.07	1603.26
Weighted Average Rate of Interest on Loan (%)	8.9896	8.9837	8.9757	8.9585	8.9498
Interest on Loan	266.32	235.61	204.90	174.07	143.49

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan					
Gross Normative Loan	17493.62	17493.62	17493.62	17493.62	17493.62
Cumulative Repayments up to Previous Year	3681.10	5001.93	6322.76	7643.60	8964.43
Net Loan-Opening	13812.52	12491.68	11170.85	9850.02	8529.19
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1320.83	1320.83	1320.83	1320.83	1320.83
Net Loan-Closing	12491.68	11170.85	9850.02	8529.19	7208.35
Average Loan	13152.10	11831.27	10510.44	9189.60	7868.77
Weighted Average Rate of Interest on Loan (%)	8.9945	8.9950	8.9950	8.9946	8.9942
Interest on Loan	1182.96	1064.23	945.41	826.57	707.73

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Loan					
Gross Normative Loan	4086.48	4086.48	4086.48	4086.48	4086.48
Cumulative Repayments up to Previous Year	1005.93	1314.88	1623.82	1932.77	2241.72
Net Loan-Opening	3080.55	2771.60	2462.66	2153.71	1844.76
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	308.95	308.95	308.95	308.95	308.95
Net Loan-Closing	2771.60	2462.66	2153.71	1844.76	1535.82
Average Loan	2926.08	2617.13	2308.18	1999.24	1690.29
Weighted Average Rate of Interest on Loan (%)	9.0845	9.0817	9.0762	9.0620	9.0556
Interest on Loan	265.82	237.68	209.49	181.17	153.07



18. IoL approved vide order dated 24.2.2016 in Petition No. 297/TT/2015, claimed by the Petitioner in the instant petition and trued-up IoL allowed in respect of transmission assets is as under:

(₹ in lakh)

Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	268.31	239.63	208.76	177.88	146.99
Claimed by the Petitioner in the instant petition	266.32	235.62	204.91	174.07	143.49
Allowed after true-up vide this order	266.32	235.61	204.90	174.07	143.49

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	1184.93	1067.91	948.75	829.61	710.48
Claimed by the Petitioner in the instant petition	1182.97	1064.22	945.42	826.57	707.74
Allowed after true-up vide this order	1182.96	1064.23	945.41	826.57	707.73

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	267.11	240.65	212.39	184.10	155.79
Claimed by the Petitioner in the instant petition	265.82	237.68	209.49	181.16	153.06
Allowed after true-up vide this order	265.82	237.68	209.49	181.17	153.07

Return on Equity (RoE)

19. The Petitioner has claimed RoE for the instant transmission assets in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has claimed RoE for the 2014-19 tariff period after grossing up RoE of 15.50% with Effective Tax rates (based on MAT rates) for each year of the 2014-19 period as per the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed following effective tax rates for the 2014-19 tariff period:



	For Asset-A		For Asset-B and Asset-C	
Year	Claimed effective tax rate (in %)	Grossed up ROE (Base Rate/1-t) (in %)	Claimed effective tax rate (in %)	Grossed up ROE (Base Rate/1-t) (in %)
2014-15	21.018	20.258	21.018	19.625
2015-16	21.382	20.351	21.382	19.716
2016-17	21.338	20.341	21.338	19.705
2017-18	21.337	20.341	21.337	19.704
2018-19	21.549	20.395	21.549	19.758

20. We have considered the submissions of the Petitioner. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates. The relevant portion of the order dated 27.4.2020 is as under:

“26. We are conscious that the entities covered under MAT regime are paying Income Tax as per MAT rate notified for respective financial year under IT Act, 1961, which is levied on the book profit of the entity computed as per the Section 115JB of the IT Act, 1961. The Section 115JB(2) defines book profit as net profit in the statement of Profit & Loss prepared in accordance with Schedule-III of the Companies Act, 2013, subject to some additions and deductions as mentioned in the IT Act, 1961. Since the Petitioner has been paying income tax on income computed under Section 115JB of the IT Act, 1961 as per the MAT rates of the respective financial year, the notified MAT rate for respective financial year shall be considered as effective tax rate for the purpose of grossing up of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations. Interest imposed on any additional income tax demand as per the Assessment Order of the Income Tax authorities shall be considered on actual payment. However, penalty (for default on the part of the Assessee) if any imposed shall not be taken into account for the purpose of grossing up of rate of return on equity. 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 transmission customers/ DICs as the case may be on year to year basis.

27. Accordingly, following effective tax rates based on notified MAT rates are considered for the purpose of grossing up of rate of return on equity:

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



21. The same MAT rates as considered in order dated 27.4.2020 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 tariff period in terms of the provisions of the 2014 Tariff Regulations. The same is as under:

Year	Notified MAT rates (inclusive of surcharge & cess) (in %)	Base rate of RoE (in %)	Grossed up ROE (Base Rate/1-t) (in %)	Base rate of RoE including additional RoE (in %)	Grossed up RoE (Base Rate including additional RoE/1-t) (in %)
2014-15	20.961	15.50	19.610	16.00	20.243
2015-16	21.342	15.50	19.705	16.00	20.341
2016-17	21.342	15.50	19.705	16.00	20.341
2017-18	21.342	15.50	19.705	16.00	20.341
2018-19	21.549	15.50	19.758	16.00	20.395

22. Accordingly, based on the RoE (Base Rate) already allowed *vide* order dated 24.2.2016 in Petition No. 297/TT/2015 as well as MAT rate applicable in the respective years, RoE as trued-up is shown in the table below:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity					
Opening Equity	1926.39	1926.39	1926.39	1926.39	1926.39
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	1926.39	1926.39	1926.39	1926.39	1926.39
Average Equity	1926.39	1926.39	1926.39	1926.39	1926.39
Return on Equity (Base Rate) (%)	16.000	16.000	16.000	16.000	16.000
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	20.243	20.341	20.341	20.341	20.395
Return on Equity	389.96	391.85	391.85	391.85	392.88

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity					
Opening Equity	7497.26	7497.26	7497.26	7497.26	7497.26
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	7497.26	7497.26	7497.26	7497.26	7497.26
Average Equity	7497.26	7497.26	7497.26	7497.26	7497.26
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500



Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
Return on Equity	1470.25	1477.37	1477.37	1477.37	1481.27

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity					
Opening Equity	1751.35	1751.35	1751.35	1751.35	1751.35
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	1751.35	1751.35	1751.35	1751.35	1751.35
Average Equity	1751.35	1751.35	1751.35	1751.35	1751.35
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
Return on Equity	343.45	345.11	345.11	345.11	346.02

23. Accordingly, the details of RoE allowed by the Commission vide order dated 24.2.2016 in Petition No. 297/TT/2015, claimed by the Petitioner in the instant petition and trued-up RoE allowed in respect of the instant transmission assets is shown in the table below:

(₹ in lakh)

Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	391.95	393.95	393.95	393.95	393.95
Claimed by the Petitioner in the instant petition	390.25	392.04	391.85	391.85	392.89
Allowed after true-up vide this Order	389.96	391.85	391.85	391.85	392.88

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	1471.98	1473.74	1473.74	1473.74	1473.74
Claimed by the Petitioner in the instant petition	1471.34	1478.08	1477.34	1477.34	1481.31
Allowed after true-up vide this Order	1470.25	1477.37	1477.37	1477.37	1481.27

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No.	344.98	346.52	346.52	346.52	346.52



Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
297/TT/2015					
Claimed by the Petitioner in the instant petition	343.70	345.28	345.10	345.10	346.03
Allowed after true-up <i>vide</i> this Order	343.45	345.11	345.11	345.11	346.02

Depreciation

24. The Gross Block during the 2014-19 period has been depreciated at weighted average rate of depreciation (WAROD) (as placed in Annexure-I). WAROD has been worked out after taking into account the depreciation rates of the instant assets as specified in the 2014 Tariff Regulations and the depreciation allowed for the instant transmission asset during the 2014-19 tariff period is as under:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	6421.30	6421.30	6421.30	6421.30	6421.30
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	6421.30	6421.30	6421.30	6421.30	6421.30
Average Gross Block	6421.30	6421.30	6421.30	6421.30	6421.30
Weighted Average Rate of Depreciation (WAROD) (%)	5.29	5.29	5.29	5.29	5.29
Balance useful life of the asset	31	30	29	28	27
Elapsed life of the asset	4	5	6	7	8
Aggregate Depreciable value	5779.17	5779.17	5779.17	5779.17	5779.17
Depreciation during the year	339.81	339.81	339.81	339.81	339.81
Cumulative Depreciation	1702.32	2042.13	2381.93	2721.74	3061.55
Remaining Depreciable Value	4076.85	3737.04	3397.24	3057.43	2717.62

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	24990.88	24990.88	24990.88	24990.88	24990.88
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	24990.88	24990.88	24990.88	24990.88	24990.88
Average Gross Block	24990.88	24990.88	24990.88	24990.88	24990.88
Weighted Average Rate of Depreciation (WAROD) (%)	5.29	5.29	5.29	5.29	5.29
Balance useful life of the asset	32	31	30	29	28
Elapsed life of the asset	2	3	4	5	6
Depreciable value	22491.79	22491.79	22491.79	22491.79	22491.79



Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation during the year	1320.83	1320.83	1320.83	1320.83	1320.83
Cumulative Depreciation	5001.93	6322.76	7643.60	8964.43	10285.26
Remaining Depreciable Value	17489.86	16169.03	14848.20	13527.36	12206.53

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation					
Opening Gross Block	5837.83	5837.83	5837.83	5837.83	5837.83
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	5837.83	5837.83	5837.83	5837.83	5837.83
Average Gross Block	5837.83	5837.83	5837.83	5837.83	5837.83
Weighted Average Rate of Depreciation (WAROD) (%)	5.29	5.29	5.29	5.29	5.29
Balance useful life of the asset	31	30	29	28	27
Elapsed life of the asset	3	4	5	6	7
Aggregate Depreciable value	5254.05	5254.05	5254.05	5254.05	5254.05
Depreciation during the year	308.95	308.95	308.95	308.95	308.95
Cumulative Depreciation	1314.88	1623.82	1932.77	2241.72	2550.66
Remaining Depreciable Value	3939.17	3630.22	3321.28	3012.33	2703.38

25. The depreciation approved vide order dated 24.2.2016 in Petition No. 297/TT/2015, claimed by the Petitioner in the instant petition and depreciation allowed in respect of the transmission assets is given below:

(₹ in lakh)

Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	341.54	343.28	343.28	343.28	343.28
Claimed by the Petitioner in the instant petition	339.81	339.81	339.81	339.81	339.81
Allowed after true-up vide this order	339.81	339.81	339.81	339.81	339.81

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 24.2.2016 in Petition No. 297/TT/2015	1322.41	1324.00	1324.00	1324.00	1324.00
Claimed by the Petitioner in the instant petition	1320.83	1320.83	1320.83	1320.83	1320.83
Allowed after true-up vide this order	1320.83	1320.83	1320.83	1320.83	1320.83



(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	310.32	311.71	311.71	311.71	311.71
Claimed by the Petitioner in the instant petition	308.96	308.96	308.96	308.96	308.96
Allowed after true-up <i>vide</i> this order	308.95	308.95	308.95	308.95	308.95

Operation & Maintenance Expenses (O&M Expenses)

26. The O&M Expenses claimed by the Petitioner for the transmission assets are as under:

(₹ in lakh)

Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
Transmission line					
S/C (Twin/Triple Conductor)	0.297	0.297	0.297	0.297	0.297
Norms (₹ lakh/Bay)	0.404	0.418	0.432	0.446	0.461
D/C Twin/Triple Conductor	49.46	49.46	49.46	49.46	49.46
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
Total O&M expense (₹ in lakh)	35.09	36.28	37.47	38.71	40.00

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
Biharsharif: Koderma-TPS-Biharsharif	1	1	1	1	1
Biharsharif: Koderma-TPS-Biharsharif	1	1	1	1	1
Norms (₹ lakh/Bay)	60.3	62.3	64.37	66.51	68.71
Transmission line					
D/C Bundled (4 or more sub-conductor)	110.69	110.69	110.69	110.69	110.69
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.21
Total O&M Expenses (₹ in lakh)	238.15	246.03	254.15	262.64	271.35

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
Maithon: Maithon RB I Bay	1	1	1	1	1
Maithon: Maithon RB II Bay	1	1	1	1	1
Norms (₹ lakh/Bay)	60.3	62.3	64.37	66.51	68.71
Transmission line					



Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
D/C Twin/Triple Conductor	31.50	31.50	31.50	31.50	31.50
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
Total O&M Expenses (₹ in lakh)	142.87	147.63	152.52	157.59	162.81

27. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. Norms specified in respect of the transmission assets are as under:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
Transmission line					
S/C (Twin/Triple Conductor)	0.297	0.297	0.297	0.297	0.297
Norms (₹ lakh/Bay)	0.404	0.418	0.432	0.446	0.461
D/C Twin/Triple Conductor	49.46	49.46	49.46	49.46	49.46
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	60.3	62.3	64.37	66.51	68.71
Transmission line					
D/C Bundled (4 or more sub conductor)	110.69	110.69	110.69	110.69	110.69
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.21

(₹ in lakh)					
Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	60.3	62.3	64.37	66.51	68.71
Transmission line					
D/C Twin/Triple Conductor	31.50	31.50	31.50	31.50	31.50
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806

28. We have considered the submission of the Petitioner. The O&M Expenses are allowed for the instant assets as per the norms specified in the 2014 Tariff Regulations and are as under:



(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
Transmission line					
S/C (Twin/Triple Conductor)	0.297	0.297	0.297	0.297	0.297
Norms (₹ lakh/Bay)	0.404	0.418	0.432	0.446	0.461
D/C Twin/Triple Conductor	49.46	49.46	49.46	49.46	49.46
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
Total O&M expense (₹ in lakh)	35.09	36.28	37.47	38.71	40.00

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	60.3	62.3	64.37	66.51	68.71
Transmission line					
D/C Bundled (4 or more sub Conductor)	110.69	110.69	110.69	110.69	110.69
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.21
Total O&M expense (₹ in lakh)	238.15	246.03	254.15	262.64	271.35

(₹ in lakh)					
Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	60.3	62.3	64.37	66.51	68.71
Transmission line					
D/C Twin/Triple Conductor	31.50	31.50	31.50	31.50	31.50
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
Total O&M expense (₹ in lakh)	142.87	147.63	152.52	157.59	162.81

29. The details of the O&M Expenses approved earlier *vide* order dated 24.2.2016 in Petition No. 297/TT/2015, claimed by the Petitioner in the instant petition and trued-up O&M Expenses allowed in respect of the instant transmission assets is as under:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	35.09	36.28	37.47	38.71	40.00
Claimed by the Petitioner in the instant petition	35.09	36.27	37.47	38.71	40.00
Allowed after true-up <i>vide</i> this order	35.09	36.28	37.47	38.71	40.00



(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	238.15	246.03	254.15	262.64	271.35
Claimed by the Petitioner in the instant petition	238.15	246.03	254.15	262.64	271.35
Allowed after true-up <i>vide</i> this order	238.15	246.03	254.15	262.64	271.35

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	142.87	147.63	152.52	157.59	162.81
Claimed by the Petitioner in the instant petition	142.87	147.63	152.52	157.59	162.81
Allowed after true-up <i>vide</i> this order	142.87	147.63	152.52	157.59	162.81

Interest on Working Capital (IWC)

30. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed hereunder:

i. Maintenance Spares:

Maintenance spares have been worked out based on 15% of O&M Expenses.

ii. O&M Expenses:

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

iii. Receivables:

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

iv. Rate of IWC

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

31. The trued-up IWC has been allowed as per the methodology provided in the Regulation 28 of the 2014 Tariff Regulations and it is as under:



(₹ in lakh)

Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital					
O&M Expenses	2.92	3.02	3.12	3.23	3.33
Maintenance Spares	5.26	5.44	5.62	5.81	6.00
Receivables	176.01	171.30	166.28	161.24	156.43
Total Working Capital	184.19	179.77	175.02	170.27	165.76
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	24.87	24.27	23.63	22.99	22.38

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital					
O&M Expenses	19.85	20.50	21.18	21.89	22.61
Maintenance Spares	35.72	36.90	38.12	39.40	40.70
Receivables	719.47	701.83	683.00	664.23	646.16
Total Working Capital	775.04	759.23	742.30	725.51	709.48
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	104.63	102.50	100.21	97.94	95.78

(₹ in lakh)

Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital					
O&M Expenses	11.91	12.30	12.71	13.13	13.57
Maintenance Spares	21.43	22.14	22.88	23.64	24.42
Receivables	181.68	178.01	174.06	170.12	166.40
Total Working Capital	215.02	212.45	209.65	206.89	204.39
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on working capital	29.03	28.68	28.30	27.93	27.59

32. The details of IWC approved *vide* order dated 24.2.2016 in Petition No. 297/TT/2015, trued up IWC claimed by the Petitioner and trued up IWC allowed *vide* this order is shown in the table below:

(₹ in lakh)

Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	25.00	24.49	23.84	23.20	22.56
Claimed by the Petitioner in the instant petition	24.87	24.27	23.63	22.99	22.38
Allowed after true-up <i>vide</i> this order	24.87	24.27	23.63	22.99	22.38

(₹ in lakh)

Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	104.75	102.57	100.28	98.00	95.74
Claimed by the Petitioner in the instant petition	104.66	102.51	100.21	97.94	95.78



Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Allowed after true-up <i>vide</i> this order	104.63	102.50	100.21	97.94	95.78

(₹ in lakh)					
Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	29.12	28.85	28.47	28.09	27.73
Claimed by the Petitioner in the instant petition	29.03	28.68	28.30	27.93	27.59
Allowed after true-up <i>vide</i> this order	29.03	28.68	28.30	27.93	27.59

Approved Annual Fixed Charges for the 2014-19 Tariff Period

33. The trued up annual fixed charges allowed for the instant transmission assets for the 2014-19 tariff period are summarised hereunder:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	339.81	339.81	339.81	339.81	339.81
Interest on Loan	266.32	235.61	204.90	174.07	143.49
Return on Equity	389.96	391.85	391.85	391.85	392.88
Interest on Working Capital	24.87	24.27	23.63	22.99	22.38
O&M Expenses	35.09	36.28	37.47	38.71	40.00
Total	1056.04	1027.82	997.66	967.42	938.56

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1320.83	1320.83	1320.83	1320.83	1320.83
Interest on Loan	1182.96	1064.23	945.41	826.57	707.73
Return on Equity	1470.25	1477.37	1477.37	1477.37	1481.27
Interest on Working Capital	104.63	102.50	100.21	97.94	95.78
O&M Expenses	238.15	246.03	254.15	262.64	271.35
Total	4316.83	4210.95	4097.97	3985.35	3876.97

(₹ in lakh)					
Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	308.95	308.95	308.95	308.95	308.95
Interest on Loan	265.82	237.68	209.49	181.17	153.07
Return on Equity	343.45	345.11	345.11	345.11	346.02
Interest on Working Capital	29.03	28.68	28.30	27.93	27.59
O&M Expenses	142.87	147.63	152.52	157.59	162.81
Total	1090.11	1068.05	1044.38	1020.75	998.44

34. The Annual Transmission Charges approved *vide* order dated 24.2.2016 in Petition No. 297/TT/2015, trued-up AFC claimed by the Petitioner in the instant



petition and true-up AFC allowed in respect of instant transmission assets is as under:

(₹ in lakh)					
Asset-A	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	1061.89	1037.62	1007.31	977.02	946.78
Claimed by the Petitioner	1056.34	1028.01	997.67	967.43	938.57
Allowed after true-up <i>vide</i> this order	1056.04	1027.82	997.66	967.42	938.56

(₹ in lakh)					
Asset-B	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	4322.23	4214.25	4100.92	3987.99	3875.31
Claimed by the Petitioner	4317.95	4211.67	4097.95	3985.32	3877.01
Allowed after true-up <i>vide</i> this order	4316.83	4210.95	4097.97	3985.35	3876.97

(₹ in lakh)					
Asset-C	2014-15	2015-16	2016-17	2017-18	2018-19
Approved <i>vide</i> order dated 24.2.2016 in Petition No. 297/TT/2015	1094.40	1075.35	1051.61	1028.01	1004.56
Claimed by the Petitioner	1090.39	1068.24	1044.38	1020.75	998.46
Allowed after true-up <i>vide</i> this order	1090.11	1068.05	1044.38	1020.75	998.44

DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-24 TARIFF PERIOD

35. The Petitioner has claimed tariff combining the instant transmission assets into one single asset and has submitted the tariff forms. Accordingly, as per proviso (i) of Regulation 8(1) of the 2019 Tariff Regulations, single tariff for the Combined Asset is approved for the 2019-24 tariff period. The Petitioner has claimed the following transmission charges for the Combined Asset for the 2019-24 tariff period:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1969.61	1969.61	1969.61	1969.61	423.86
Interest on Loan	827.01	649.70	472.40	295.19	187.48
Return on Equity	2098.89	2098.89	2098.89	2098.89	2098.89
Interest on Working Capital	88.72	86.79	84.67	82.56	58.08
O&M Expenses	346.40	358.52	371.13	384.18	397.58



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Total	5330.63	5163.51	4996.70	4830.43	3165.89

36. The details of IWC claimed by the Petitioner in respect of the Combined Asset for the 2019-24 tariff period are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	28.87	29.88	30.93	32.02	33.13
Maintenance Spares	51.96	53.78	55.67	57.63	59.64
Receivables	655.41	636.60	616.03	595.53	389.25
Total Working Capital	736.24	720.26	702.63	685.18	482.02
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	88.72	86.79	84.67	82.56	58.08

Effective Date of Commercial Operation (E-COD)

37. The Petitioner has claimed E-COD based on the trued-up capital cost and actual COD of the individual assets. E-COD has been worked out as on 30.1.2011 as under:

Asset	Trued-up Capital Cost as on 31.3.2019 (₹ in lakh)	Actual COD	No. of days from COD of Asset from COD of Project	Weight of cost	Weighted days	Effective COD (latest COD – total weighted Days)
Asset-A	6421.30	1.2.2010	485	17.24%	83.61	30.1.2011
Asset-B	24990.88	1.6.2011	0	67.09%	0.00	
Asset-C	5837.83	1.10.2010	243	15.67%	38.08	
Total	37250.01				121.69	

Weighted Average Life (WAL) of the Combined Asset

38. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective useful life as specified in the 2019 Tariff Regulations. Accordingly, WAL of the Combined Asset has been worked out as 34 years as under:

Particulars	Combined Capital Cost as on 31.3.2019 (₹ in lakh) (1)	Life (in years) (2)	Weighted Cost (₹ in lakh) (3) = (1) x (2)	Weighted Avg. Life of Asset (in years) (4) = (3)/ (1)
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Particulars	Combined Capital Cost as on 31.3.2019 (₹ in lakh) (1)	Life (in years) (2)	Weighted Cost (₹ in lakh) (3) = (1) x (2)	Weighted Avg. Life of Asset (in years) (4) = (3)/ (1)
Transmission Line	35516.72	35	1243085.30	
Sub-station	1467.94	25	36698.62	
PLCC	265.34	15	3980.13	
IT Equipment (Incl. Software)	0.00	6	0.00	
Total	37250.01		1283764.06	34.4635 (rounded off to 34 years)

39. 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, the Effective COD of the assets is 30.1.2011 and the lapsed life of the project as a whole works out as 8 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 to be 26 years.

Capital Cost as on 1.4.2019

40. Regulation 19 of the 2019 Tariff Regulations provides as under:

“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.”

41. The combined admitted capital cost of ₹37250.01 lakh as on 31.3.2019 as trued up in above paragraphs is considered as the capital cost as on 1.4.2019 for the purpose of determination of tariff for the Combines Asset for the 2019-24 tariff period.

42. The Petitioner has not claimed/ projected any ACE during 2019-24 tariff period. The Petitioner was directed vide TV (technical validation) letter dated 19.5.2020 to confirm that no previously un-discharged liabilities are pending other than claimed in the petition as no ACE has been claimed during this period. In response, the Petitioner has submitted that no previously un-discharged liabilities are pending as of now other than that claimed in the petition.

43. We have considered the submissions made by the Petitioner. Accordingly, the capital cost considered for the Combined Asset for the 2019-24 tariff period is as under:

Capital Cost as on 1.4.2019	ACE claimed	(₹ in lakh) Total Capital Cost as on 31.3.2024
	2019-24	
37250.01	Nil	37250.01



Debt-Equity ratio

44. Regulation 18 of the 2019 Tariff Regulations provides as under:

“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:

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

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.”

45. The details of the debt-equity considered for the purpose of computation of tariff for the Combined Asset for the 2019-24 tariff period is as under:

(₹ in lakh)						
Particulars	Capital Cost as on 1.4.2019	%	ACE for 2019-24	%	Capital Cost as on 31.3.2024	%
Debt	26075.01	70.00	Nil	70.00	26075.01	70.00
Equity	11175.00	30.00	Nil	30.00	11175.00	30.00
Total	37250.01	100.00	Nil	100.00	37250.01	100.00

Return on Equity (RoE)

46. Regulations 30 and 31 of the 2019 Tariff Regulations provides as under:

“30. Return on Equity: (1) *Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.*

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

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system

Provided further that:

- i. *In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;*
- ii. *in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;*
- iii. *in case of a thermal generating station, with effect from 1.4.2020:*
 - a) *rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;*
 - b) *an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:*



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

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.”*



47. 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 for the Combined Asset for the 2019-24 tariff period is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	11175.00	11175.00	11175.00	11175.00	11175.00
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	11175.00	11175.00	11175.00	11175.00	11175.00
Average Equity	11175.00	11175.00	11175.00	11175.00	11175.00
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Return on Equity	2098.83	2098.83	2098.83	2098.83	2098.83

Interest on Loan (IoL)

48. Regulation 32 of the 2019 Tariff Regulations provides that:

“32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan



is still outstanding, the last available weighted average rate of interest shall be considered;

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.”

49. We have considered the submissions of the Petitioner. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true-up. IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. The IoL allowed for the Combined Asset for the 2019-24 tariff period is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	26075.01	26075.01	26075.01	26075.01	26075.01
Cumulative Repayments upto Previous Year	15897.47	17867.06	19836.65	21806.23	23775.82
Net Loan-Opening	10177.53	8207.95	6238.36	4268.77	2299.19
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1969.59	1969.59	1969.59	1969.59	443.14
Net Loan-Closing	8207.95	6238.36	4268.77	2299.19	1856.04
Average Loan	9192.74	7223.15	5253.57	3283.98	2077.61
Weighted Average Rate of Interest on Loan (%)	8.9964	8.9948	8.9923	8.9892	8.9826
Interest on Loan	827.02	649.71	472.42	295.20	186.62

Depreciation

50. Regulation 33(1), (2) and (5) of the 2019 Tariff Regulations provides that:

“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."

51. The Gross Block during the 2019-24 tariff period has been depreciated at WAROD (as placed in Annexure-II). 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 depreciation allowed for the Combined Asset for the 2019-24 tariff period is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation					
Opening Gross Block	37250.01	37250.01	37250.01	37250.01	37250.01
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	37250.01	37250.01	37250.01	37250.01	37250.01
Average Gross Block	37250.01	37250.01	37250.01	37250.01	37250.01
Rate of Depreciation (%)	5.29	5.29	5.29	5.29	Spreading
Balance useful life of the asset	26	25	24	23	22
Elapsed life	8	9	10	11	12
Depreciable Value	33525.01	33525.01	33525.01	33525.01	33525.01
Depreciation during the year	1969.59	1969.59	1969.59	1969.59	443.14
Cumulative Depreciation	17867.06	19836.65	21806.23	23775.82	24218.96
Remaining Depreciable Value	15657.95	13688.36	11718.78	9749.19	9306.04

Operation & Maintenance Expenses (O&M Expenses)

52. The O&M Expenses claimed by the Petitioner for the Combined Asset for the 2019-24 period are as under:

(₹ in lakh)					
O&M Expenses					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV					
No. of bays	4	4	4	4	4
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Transmission line					
S/C (Twin/Triple Conductor)	0.297	0.297	0.297	0.297	0.297
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
D/C Bundled (4 or more sub conductors)	110.69	110.69	110.69	110.69	110.69
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
D/C Twin/Triple Conductor	80.956	80.956	80.956	80.956	80.956
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
O&M for PLCC	No claim				
Total O&M Expenses (₹ in lakh)	346.40	358.52	371.13	384.18	397.58

53. Regulations 35(3)(a) and (4) of the 2019 Tariff Regulations provide as under:

“35. Operation and Maintenance Expenses:



....

(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (Rs Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (Rs Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (Rs Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (Rs. Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh)(3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata



on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;

- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- iii. the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (2500 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.

(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

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

(4) **Communication system:** The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up."

54. We have considered the submissions of the Petitioner. The O&M Expenses allowed for the Combined Asset for the 2019-24 tariff period is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses					



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV					
Maithon: Maithon Rb I Bay	1	1	1	1	1
Maithon: Maithon RB II Bay	1	1	1	1	1
Biharsharif: Koderma-TPS-Biharsharif	1	1	1	1	1
Biharsharif: Koderma-TPS-Biharsharif	1	1	1	1	1
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Transmission line					
S/C (Twin/Triple Conductor)	0.297	0.297	0.297	0.297	0.297
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
D/C Bundled (4 or more sub conductors)	110.69	110.69	110.69	110.69	110.69
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
D/C Twin/Triple Conductor	80.956	80.956	80.956	80.956	80.956
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
Total O&M Expenses (₹ in lakh)	346.40	358.53	371.12	384.17	397.57

Interest on Working Capital (IWC)

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

“34. Interest on Working Capital: (1) The working capital shall cover:

.....

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

- (i) Receivables equivalent to 45 days of annual fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
- (iii) Operation and maintenance expenses, including security expenses for one month.

.....

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

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

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.

“3. Definitions. - In these regulations, unless the context otherwise requires:-

.....

(7) ‘Bank Rate’ means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”



56. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of interest on working capital as 12.05%. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. 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, whereas, ROI for 2020-21 onwards has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points). The components of the working capital and interest thereon allowed for the Combined Asset for the 2019-24 tariff period are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	28.87	29.88	30.93	32.01	33.13
Maintenance Spares	51.96	53.78	55.67	57.63	59.64
Receivables	655.40	635.87	615.32	594.84	391.06
Total Working Capital	736.22	719.53	701.91	684.48	483.83
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest on working capital	88.71	80.95	78.97	77.00	54.43

Annual Fixed Charges for the 2019-24 Tariff Period

57. The transmission charges allowed for the Combined Asset for the 2019-24 period are summarised under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1969.59	1969.59	1969.59	1969.59	443.14
Interest on Loan	827.02	649.71	472.42	295.20	186.62
Return on Equity	2098.83	2098.83	2098.83	2098.83	2098.83
Interest on Working Capital	88.71	80.95	78.97	77.00	54.43
O&M Expenses	346.40	358.53	371.12	384.17	397.57
Total	5330.56	5157.61	4990.92	4824.80	3180.61

Filing Fee and the Publication Expenses

58. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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

59. The Petitioner has requested to allow it to bill and recover license fee and RLDC fees and charges separately from the Respondents. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 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 the 2019-24 period.

Goods and Services Tax

60. 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 & billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Govt. / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

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

Security Expenses

62. 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. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming



estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 will be filed on a yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis. Any application filed by the Petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2019 Tariff Regulations.

63. We have considered the submissions of the Petitioner. We are of the view that the Petitioner should claim security expenses for all the transmission assets in one petition. It is observed that the Petitioner has already filed the Petition No.260/MP/2020 claiming consolidated security expenses on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19. Therefore, security expenses will be dealt with in Petition No. 260/MP/2020 in accordance with the applicable provisions of the 2019 Tariff Regulations.

Capital Spares

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

Sharing of Transmission Charges

65. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of the Central Electricity Regulatory Commission



(Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 or the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, as applicable, as provided in Regulation 43 of the 2014 Tariff Regulations for the 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.

66. To summarise, the trued-up Annual Fixed Charges allowed for the instant assets for the 2014-19 tariff period are as under:

(₹ in lakh)					
Annual Fixed Charges	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-A	1056.04	1027.82	997.66	967.42	938.56
Asset-B	4316.83	4210.95	4097.97	3985.35	3876.97
Asset-C	1090.11	1068.05	1044.38	1020.75	998.44

67. The Annual Fixed Charges allowed for the Combined Asset for the 2019-24 tariff period are as under:

(₹ in lakh)					
Annual Fixed Charges	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	5330.56	5157.61	4990.92	4824.80	3180.61

68. This order disposes of Petition No. 4/TT/2020.

**Sd/
(Arun Goyal)
Member**

**Sd/
(I.S. Jha)
Member**

**Sd/
(P.K. Pujari)
Chairperson**



Annexure-1

Asset- A

2014-19	Admitted Capital Cost as on 1.4.2014 / COD (₹ in lakh)	Additional Capitalization (₹ 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		2014-19			2014-15	2015-16	2016-17	2017-18	2018-19
Land - Freehold	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Transmission Line	6348.62	0.00	6348.62	5.28%	335.21	335.21	335.21	335.21	335.21
Sub Station	0.00	0.00	0.00	5.28%	0.00	0.00	0.00	0.00	0.00
PLCC	72.68	0.00	72.68	6.33%	4.60	4.60	4.60	4.60	4.60
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00
Total	6421.30	0.00	6421.30	Total	339.81	339.81	339.81	339.81	339.81
Average Gross Block (₹ in lakh)					6421.30	6421.30	6421.30	6421.30	6421.30
Weighted Average Rate of Depreciation					5.29%	5.29%	5.29%	5.29%	5.29%

Asset- B

2014-19	Admitted Capital Cost as on 1.4.2014 / COD (₹ in lakh)	Additional Capitalization (₹ 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		2014-19			2014-15	2015-16	2016-17	2017-18	2018-19
Land - Freehold	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Transmission Line	23865.95	0.00	23865.95	5.28%	1260.12	1260.12	1260.12	1260.12	1260.12
Sub Station	999.80	0.00	999.80	5.28%	52.79	52.79	52.79	52.79	52.79
PLCC	125.13	0.00	125.13	6.33%	7.92	7.92	7.92	7.92	7.92
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00
Total	24990.88	0.00	24990.88	Total	1320.83	1320.83	1320.83	1320.83	1320.83
Average Gross Block (₹ in lakh)					24990.88	24990.88	24990.88	24990.88	24990.88
Weighted Average Rate of Depreciation					5.29%	5.29%	5.29%	5.29%	5.29%



Asset- C

2014-19	Admitted Capital Cost as on 1.4.2014 / COD (₹ in lakh)	Additional Capitalization (₹ 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			2014-15	2015-16	2016-17	2017-18	2018-19
Land - Freehold	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Transmission Line	5302.15	0.00	5302.15	5.28%	279.95	279.95	279.95	279.95	279.95
Sub Station	468.14	0.00	468.14	5.28%	24.72	24.72	24.72	24.72	24.72
PLCC	67.53	0.00	67.53	6.33%	4.27	4.27	4.27	4.27	4.27
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00
Total	5837.83	0.00	5837.83	Total	308.95	308.95	308.95	308.95	308.95
Average Gross Block (₹ in lakh)					5837.83	5837.83	5837.83	5837.83	5837.83
Weighted Average Rate of Depreciation					5.29%	5.29%	5.29%	5.29%	5.29%



Annexure-2

2019-24	Combined Admitted Capital Cost as on 1.4.2019 / COD (₹ in lakh)	Additional Capitalization	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)			
Capital Expenditure		2019-24			2019-20	2020-21	2021-22	2022-23
Land - Freehold	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00
Building Civil Works & Colony	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00
Transmission Line	35516.72	0.00	35516.72	5.28%	1875.28	1875.28	1875.28	1875.28
Sub Station	1467.94	0.00	1467.94	5.28%	77.51	77.51	77.51	77.51
PLCC	265.34	0.00	265.34	6.33%	16.80	16.80	16.80	16.80
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00
Total	37250.01	0.00	37250.01	Total	1969.59	1969.59	1969.59	1969.59
Average Gross Block (₹ in lakh)					37250.01	37250.01	37250.01	37250.01
Weighted Average Rate of Depreciation					5.29%	5.29%	5.29%	5.29%

*Since the asset has completed 12 years of life as on 31.3.2023, the remaining depreciable value of ₹9749.19 lakh as on 31.3.2023 has been spread across the balance useful life of 22 years in accordance with Regulation 33(5) of the 2019 Tariff Regulations. The annual depreciation from 2022-23 onwards is ₹443.14 lakh.

