

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 209/TT/2021

Coram:

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

Date of Order:19.09.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and trueing up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of Asset-1: 2 numbers 400 kV line bays and 2 numbers 50 MVAR Switchable line reactors each at Cuddapah GIS and Madhugiri ends for terminating Cuddapah – Madhugiri 400 kV (quad) D/C line and Asset-2: 2 numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Vemagiri II- Chilakaluripeta 765 kV D/C line at Vemagiri II Pooling Station (2 numbers 240 MVAR Switchable line reactors) under "Sub-station Works Associated with Strengthening of Transmission System beyond Vemagiri" in the Southern Region.

And in the matter of:

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

.....Petitioner

Versus

1. Karnataka Power Transmission Corporation Limited,
Kaveri Bhavan, Bangalore – 560 009.
2. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Soudha, Gunadala, Eluru Road,
Vijayawada– 520004.
3. Kerala State Electricity Board,
Vaidyuthi Bhavanam,
Pattom, Thiruvananthapuram – 695 004.



4. Tamil Nadu Generation and Distribution Corporation Limited,
(Formerly Tamil Nadu Electricity Board -TNEB),
NPKRR Maaligai, 800, Anna Salai, Chennai – 600 002.
5. Electricity Department,
Government of Pondicherry, Pondicherry – 605001.
6. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,
D.No: 19-13-65/A, Srinivasapuram, Corporate Office,
Tiruchanoor Road, Tirupati– 517 503,
Chittoor District, Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Limited,
6-1-50, Corporate Office, Mint Compound,
Hyderabad – 500 063, Telangana.
9. Northern Power Distribution Company of Telangana Limited,
H.No 2-5-3 1/2, Vidyut Bhawan, Corporate Office, Nakkal Gutta, Hanamkonda,
Warangal – 506 001, Telangana.
10. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R. Circle,
Bangalore – 560 001, Karnataka.
11. Gulbarga Electricity Supply Company Limited,
Station Main Road, Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Limited,
Navanagar, PB Road, Hubli, Karnataka.
13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575 001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Limited,
927,L J Avenue, Ground Floor, New Kantharaj Urs Road,
Saraswatipuram, Mysore – 570 009, Karnataka.
15. Electricity Department,
Government of Goa,
Vidyuti Bhawan, Panaji, Goa– 403001.
16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad– 500082.



17. Tamil Nadu Transmission Corporation,
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600 002.

18. POWERGRID Southern Interconnector Transmission System Limited,
B-9, Qutab institutional Area,
Katwaria Sarai, New Delhi– 110016.

...Respondent(s)

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

For Respondent: Shri S. Vallinyagam, Advocate, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for truing up of transmission tariff based on capital expenditure of 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of transmission tariff for 2019-24 period 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 "Sub-station Works Associated with Strengthening of Transmission System beyond Vemagiri" in the Southern Region (hereinafter referred to as “the transmission project”):

Asset-1: 2 numbers 400 kV line bays and 2 numbers 50 MVAR Switchable line reactors each at Cuddapah GIS and Madhugiri ends for terminating Cuddapah – Madhugiri 400 kV (quad) D/C line; and

Asset-2: 2 numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Vemagiri II- Chilakaluripeta 765 kV D/Cc line at Vemagiri II Pooling Station (2 numbers 240 MVAR Switchable line reactors).



(In 2014-19 tariff period, the assets are termed as 'transmission assets. The transmission assets are combined during 2019-24 period and are accordingly termed as 'Combined Asset' for 2019-24 tariff period.)

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

- “1) Approve the true up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition as per para 8.1 and 9.0 above.*
- 2) Approve the Completion cost and additional capitalization incurred during 2014-19 and allow the projected additional capitalization during 2019-24.*
- 3) Allow the depreciation on the claim of IT equipment in the current true up petition as Bifurcation of Substation cost.*
- 4) 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 8.1 and 9.0 above for respective block..*
- 5) 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.*
- 6) 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.*
- 7) 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.*
- 8) 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 9.6 above.*
- 9) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 10) 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 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 implementation of the transmission project was accorded by the Board of Directors of the Petitioner in its 334th meeting held on 22.10.2016 at an estimated cost of ₹60824 lakh including IDC of ₹3612 lakh based on June, 2016 price level (communicated vide Memorandum No. C/CP/PA 1617-10-00-IA 013 dated 24.10.2016).
 - b. The scope of the transmission project was discussed and agreed in the 37th and 39th meeting of the Standing Committee on Power System Planning of Southern Region held on 31.7.2014 & 28.12.2015 and 29.12.2015 respectively. Further, the transmission project was also agreed in 26th and 29th Meeting of SRPC held on 20.12.2014 and 5.3.2016 respectively.
 - c. The Empowered Committee on Transmission in its 33rd and 35th meeting held on 30.9.2014 and 14.9.2015 respectively, decided that the implementation of transmission lines (approved in the SCM/SRPC meetings) would be undertaken through Tariff Based Competitive Bidding (TBCB) route. The Sub-station works for TBCB lines terminating at the Petitioner's Sub-stations including line bays and line reactors were brought under the scope of the Petitioner.
 - d. The scope of work under the transmission project is as follows:
 - i) 2 numbers of 765 kV line bays at Vemagiri-II Pooling Station for termination of Vemagiri-II-Chilakaluripeta 765 kV D/C Line.
 - ii) 1 number of 240 MVAR Switchable Line Reactor on each circuit of Vemagiri-II-Chilakaluripeta 765 kV D/C Line at Vemagiri-II polling station (i.e. 2 numbers 240 MVAR reactor at Vemagiri-II)
 - iii) 2 numbers of 765 kV line bays at Cuddapah for terminating Chilakaluripeta-Cuddapah 765 kV D/C Line.
 - iv) 1 number of 240 MVAR Switchable Line Reactor on each circuit of Chilakaluripeta-Cuddapah 765 kV D/C Line at Cuddapah (i.e. 2 numbers 240 MVAR Switchable line reactors)



- v) 2 numbers of 400 kV line bays at Cuddapah for terminating Cuddapah-Madhugiri 400 kV (quad) D/C line.
 - vi) 1 number of 50 MVAR Switchable Line Reactor on each circuit of Cuddapah-Madhugiri 400kV (quad) D/C line at Cuddapah (i.e. 2 numbers 50 MVAR Switchable line reactors)
 - vii) 2 numbers of 400 kV line bays at Madhugiri for termination of Cuddapah-Madhugiri 400 kV (quad) D/C line
 - viii) 1 number of 50MVAR Switchable Line Reactor on each circuit of Cuddapah-Madhugiri 400kV (quad) D/C line at Madhugiri (2 numbers 50 MVAR Switchable line reactors)
 - ix) 2 Numbers 400 kV line bays at Srikakulam for termination of Srikakulam Pooling Station - Garividi 400 kV Quad D/C line
- e. The complete scope of the works as per IAhas been completed. The status of the other assets covered in the transmission project and the petitions under which they are granted tariff are as follows:

Assets Name	COD	Covered Under Petition
2 numbers of 400 kV line bays at Srikakulam for termination of Srikakulam Pooling Station-Garividi 400 kV Quad D/C line	7.8.2018	Trued-up vide order dated 29.4.2021 in Petition No. 480/TT/2019
Asset 1- 2 numbers 400 kV line bays and 2 numbers 50 MVAR Switchable line reactors each at Cuddapah GIS and Madhugiri ends for terminating Cuddapah – Madhugiri 400 kV (quad) D/C line.	28.2.2019	Covered under instant petition.
Asset 2- 2 numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Vemagiri II-Chilakaluripeta 765 D/C line at Vemagiri II Pooling Station (2 numbers 240 MVAR Switchable line reactors)	15.1.2019	
2 numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactors on each circuit of Chilakaluripeta-Cuddapah 765 D/C line at Cuddapah (2 numbers 240 MVAR Switchable line reactors).	18.1.2020	Asset put into commercial operation during 2019-24 tariff period. Tariff determined vide order dated 30.11.2021 in Petition No. 661/TT/2020

- f. Tariff for the instant transmission assets from their COD to 31.3.2019 was determined vide order dated 24.1.2021 in Petition No. 69/TT/2020.



4. The Respondents are the transmission utilities, distribution licensees and power departments which are procuring transmission service from the Petitioner, mainly beneficiaries of the Southern 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. Tamil Nadu Generation and Distribution Corporation Limited(TANGEDCO), Respondent No. 4, has filed its reply vide affidavit dated 6.1.2022 and written submission dated 16.8.2022 has raised the issue of sharing of transmission charges. In response, the Petitioner has filed its rejoinder vide affidavits dated 20.7.2022 and 23.8.2022 to the reply and written submissions of TANGEDCO respectively. The issue raised by TANGEDCO and the clarifications given by the Petitioner are considered in the relevant portions of this order.

6. Hearing in this matter was held on 26.7.2022 through video conference and order was reserved.

7. This order is issued considering the submissions made by the Petitioner in the petition, TANGEDCO's reply filed vide affidavit dated 6.1.2022 and written submission dated 16.8.2022 and Petitioner's rejoinders vide affidavits dated 20.7.2022 and 23.8.2022 respectively.

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



TRUING UP OF ANNUAL FIXED CHARGES OF 2014-19 PERIOD

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

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asser-2 2018-19 (pro-rata 76 days)
Depreciation	40.63	198.81
Interest on Loan	42.17	207.94
Return on Equity	45.50	223.09
Interest on Working Capital	4.89	17.06
O&M Expenses	44.70	80.12
Total	177.89	727.02

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

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
O&M Expenses	42.48	32.07
Maintenance Spares	76.46	57.72
Receivables	338.16	581.94
Total Working Capital	457.10	671.73
Rate of Interest (in %)	12.20	12.20
Interest on Working Capital	4.89	17.06

Capital Cost

11. The capital cost of the transmission assets has been calculated in accordance with the Regulation 9(3) of the 2014 Tariff Regulations.

12. The Commission vide order dated 24.1.2021 in Petition No. 69/TT/2020 allowed the capital cost as on COD and admitted Additional Capital Expenditure (ACE) for determination of tariff for 2014-19 period in respect of the transmission assets covered in the instant petition. The details of the same are as follows:



(₹ in lakh)

Assets	FR Apportioned Approved Cost	Capital Cost upto COD	ACE	Capital cost as on 31.3.2019
			2018-19	
Asset-1	14460.90	8453.31	592.58	9045.89
Asset-2	22848.50	17651.58	847.85	18499.43

13. The Petitioner in the instant true-up petition has submitted that capital cost as on COD and actual ACE incurred in respect of the transmission assets are as follows:

(₹ in lakh)

Assets	FR Apportioned Approved Cost	Capital Cost upto COD	ACE	Capital cost as on 31.3.2019
			2018-19	
Asset-1	14460.90	8502.37	562.60	9064.97
Asset-2	22848.50	17725.02	831.93	18556.95

14. The estimated completion cost as on 31.3.2019 is within the FR apportioned approved cost as per FR. Hence, there is no cost over-run.

15. As per the IA dated 22.10.2016, the transmission project was scheduled to be put into commercial operation within 30 months from the date of IA. Accordingly, scheduled date of commercial operation (SCOD) was 22.4.2019 against which Asset-1 and Asset-2 have been put into commercial operation on 28.2.2019 and 15.1.2019 respectively. Therefore, there is no time over-run.

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

16. The Petitioner has claimed IDC in respect of the transmission assets covered in the instant petition and has submitted statement showing IDC claim, discharge of IDC liability as on date of commercial operation (COD) and thereafter and the same is as follows:



(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC Discharged upto COD	Accrual IDC Discharged	
			2018-19	2019-20
Asset-1	348.45	304.95	29.98	13.52
Asset-2	884.45	811.02	15.92	57.51

17. The Petitioner has submitted IDC computation statement which consists of 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. While going through these documents, certain discrepancies have been observed such as mismatch in loan amount between IDC statement, Form 6 and Form 9C/9D.

18. We have considered the submissions of the Petitioner. The allowable IDC has been worked out based on the information available on record and relying on loan amount as per Form 9C/9D. IDC considered in respect of the transmission assets 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 disallowed due to computational difference	IDC allowed in instant order	IDC Discharged upto COD	Accrual IDC Discharged	
					2018-19	2019-20
Asset-1	348.45	1.89	346.56	303.85	29.98	12.73
Asset-2	884.45	0.97	883.48	810.51	15.92	57.05

19. The Petitioner has claimed IEDC in respect of the transmission assets as per the Auditor's Certificate. The Petitioner has submitted that entire IEDC mentioned in the Auditor's Certificate is on cash basis and was paid upto COD. IEDC claimed as per Auditor's Certificate, IEDC considered and discharged up to COD in respect of the transmission assets areas follows:



(₹ in lakh)

Assets	IEDC claimed as per Auditor's certificate	IEDC Allowed	IEDC discharged upto COD
Asset-1	296.35	296.35	296.35
Asset-2	353.54	353.54	353.54

Initial Spares

20. 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 the cut-off date, subject to the following ceiling norms:

*“(d) Transmission System
Transmission line: 1.00%
Transmission sub-station (Green Field): 4.00%
Transmission sub-station (Brown Field): 6.00%
Series Compensation devices and HVDC Station – 4.00%
Gas Insulated sub-station :5.00%
Communication System: 3.5%”*

21. Initial spares claimed by the Petitioner are as follows:

(₹ in lakh)

Assets	Plant and Machinery cost for calculation of initial spares	Initial spares claimed		Norm as per Regulations (in %)
		Amount (₹)	Percentage (in %)	
Asset-1	11519.20	493.91	4.48	6.00
Asset-2	18488.18	695.63	3.91	6.00

22. The initial spares claimed by the Petitioner as per Auditor's Certificate dated 22.4.2021 and as per Form-13 are as follows:

(₹ in lakh)

Assets	Plant and Machinery cost for calculation of initial spares	Initial spares claimed		Norm as per Regulations (in %)
		Amount (₹)	Percentage (in %)	
Asset-1	11673.64	493.91	4.4%	6.00
Asset-2	18488.18	695.63	3.91%	6.00

23. We have considered the submissions of the Petitioner. It is observed that the plant and machinery cost mentioned in the petition and in Auditor's Certificate are not



matching. The plant and machinery cost mentioned in Auditor's Certificate is considered for the purpose of Initial Spares calculation. Initial Spares claimed by the Petitioner is within norm of 6% specified in the 2014 Tariff Regulations. Initial Spares allowed in respect of the transmission assets as percentage specified in Regulation 13(d) of the 2014 Tariff Regulations is as follows:

Assets	Particulars	Plan & Machinery cost (A)	Initial Spares Claimed(B)	Ceiling Limit (in %) (C)	Initial Spares Worked out	Initial Spares allowed in this order
					$D = \frac{[(A-B)*C]}{(100-C)}$	
Asset-1	Sub-station	11673.64	493.91	6.00%	713.60	493.91
Asset-2	Sub-station	18488.18	695.63	6.00%	1135.69	695.63

24. The capital cost of the transmission assets has been calculated in accordance with Regulation 9(2) of the 2014 Tariff Regulations and the same is as follows:

(₹ in lakh)

Assets	Capital Cost claimed as per Auditor's Certificate (A)	IDC disallowed (B)	Undischarged IDC (C)	Excess Initial Spares Disallowed (D)	Capital Cost allowed as on COD (E) = (A-B-C-D)
Asset-1	8502.37	1.89	42.71	0.00	8457.77
Asset-2	17725.02	0.97	72.97	0.00	17651.08

Additional Capital Expenditure ("ACE")

25. The Commission vide order dated 24.1.2021 in Petition No. 69/TT/2020 has allowed the following ACE in respect of the transmission assets for 2014-19 tariff period:

(₹ in lakh)

Assets	ACE
	2018-19
Asset-1	592.58
Asset-2	847.85



26. The Petitioner has claimed the same ACE as approved vide order dated 24.1.2021 in Petition No. 69/TT/2020.

27. We have considered the submissions of the Petitioner. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) (undischarged liabilities recognized to be payable at a future date) and Regulation 14(1)(ii) (works deferred for execution) of the 2014 Tariff Regulations. The details of capital cost allowed as on COD and ACE (including undischarged IDC) approved upto 31.3.2019 in respect of the transmission assets are as follows:

Assets	Approved Cost as per FR	Capital Cost allowed as on COD	(₹ in lakh)	
			ACE 2018-19	Capital cost allowed as on 31.3.2019
Asset-1	14460.90	8457.77	592.58	9050.35
Asset-2	22848.50	17651.08	847.85	18498.93

Debt-Equity ratio

28. The Petitioner has claimed debt-equity ratio of 70:30 as on COD and for ACE. Debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE during 2014-19 tariff period as provided under Regulation 19 of the 2014 Tariff Regulations. The details of debt-equity ratio in respect of the transmission assets as on COD and 31.3.2019 are as follows:

Asset-1

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2014-19 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	5920.44	70.00	414.81	70.00	6335.49	70.00
Equity	2537.33	30.00	177.77	30.00	2714.86	30.00
Total	8457.77	100.00	592.58	100.00	9050.35	100.00



Asset-2

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	ACE during 2014-19 (₹ in lakh)	In (%)	Capital Cost as on 31.3.2019 (₹ in lakh)	(in %)
Debt	12355.75	70.00	593.50	70.00	12949.25	70.00
Equity	5295.32	30.00	254.35	30.00	5549.67	30.00
Total	17651.08	100.00	847.85	100.00	18498.93	100.00

Depreciation

29. Depreciation has been dealt with in line of Regulation 27 of the 2014 Tariff Regulations. The calculation of weighted average rate of depreciation (WAROD) is placed at Annexure-I. The Gross Block during 2014-19 tariff period has been depreciated at WAROD. WAROD has been worked out considering the depreciation rates of assets specified in the 2014 Tariff Regulations and depreciation allowed during tariff period 2014-19 in respect of the transmission assets areas follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Depreciation		
Opening Gross Block (A)	8457.77	17651.08
ACE(B)	592.58	847.85
Closing Gross Block (C) = A+B	9050.35	18498.93
Average Gross Block (D) = (A+C)/2	8754.06	18075.00
Weighted Average Rate of Depreciation (in %)	5.34	5.38
Aggregate Depreciable Value	7882.53	16285.14
Balance useful life of the asset (Year)	25.00	25.00
Lapsed life (Year)	0.00	0.00
Combined Depreciation during the year	40.95	202.37
Cumulative depreciation at the end of the year	40.95	202.37
Aggregate Remaining Depreciable Value at the end of the year	7841.59	16082.77



30. The details of depreciation allowed in respect of Asset-1 and Asset-2 vide order dated 24.1.2021 in Petition No. 69/TT/2020, claimed by the Petitioner in the instant petition and true up in the instant order are as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Approved vide order dated 24.1.2021 in Petition No. 69/TT/2020	40.93	202.37
Claimed by Petitioner in the instant petition	40.63	198.81
Allowed after true-up in this order	40.95	202.37

Interest on Loan (“IoL”)

31. The Petitioner has claimed the weighted average rate of IoL based on its actual loan portfolio and rate of interest. Accordingly, IoL is calculated based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of IoL allowed in respect of the transmission assets are as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Interest on Loan		
Gross Normative Loan	5920.44	12355.75
Cumulative Repayments up to Previous Year	0.00	0.00
Net Loan-Opening	5920.44	12355.75
Additions	415.05	593.50
Repayment during the year	40.95	202.37
Net Loan-Closing	6294.54	12746.89
Average Loan	6107.49	12551.32
Weighted Average Rate of Interest on Loan (in %)	7.8740	7.9554
Interest on Loan	42.16	207.91



32. The details of IoL approved in respect of Asset-1 and Asset-2 vide order dated 24.1.2021 in Petition No. 69/TT/2020, claimed by the Petitioner in the instant petition and as trued up in the instant order are as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Approved <i>vide</i> order dated 24.1.2021 in Petition No. 69/TT/2020	42.14	207.91
Claimed by the Petitioner in the instant petition	42.17	207.94
Allowed after true-up in this order	42.16	207.91

Return on Equity (“RoE”)

33. The Petitioner has claimed RoE in respect of the transmission assets in terms of 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 the following effective tax rates for 2014-19 tariff period:

Year	Claimed effective tax rate (in %)	Grossed up RoE (in %) [(Base Rate)/(1-t)]
2014-15	21.018	19.624
2015-16	21.382	19.715
2016-17	21.338	19.704
2017-18	21.337	19.704
2018-19	21.549	19.757

34. 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 are as follows:

Year	Notified MAT rates (in %) (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



35. MAT rates as allowed vide 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 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations and the same are as follows:

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

36. The Petitioner has claimed RoE for 2014-19 tariff period after grossing up RoE of 15.50% with effective tax rates (based on MAT rates) each year as per the above said Regulation. RoE is trued up on the basis of the MAT rate applicable in the respective years and is allowed in respect of the transmission assets and the same are as follows:

Particulars	(₹ in lakh)	
	Asset-1	Asset-2
	2018-19 (pro-rata 32 days)	2018-19 (pro-rata 76 days)
Return on Equity		
Opening Equity (A)	2537.33	5295.32
Additions (B)	177.53	254.35
Closing Equity (C) = A+B	2714.86	5549.67
Average Equity (D) = (A+C)/2	2626.10	5422.50
Return on Equity (Base Rate) (in %)	15.500	15.500
MAT Rate for respective year (in %)	21.549	21.549
Rate of Return on Equity (in %)	19.758	19.758
Return on Equity	45.49	223.08



37. RoE allowed in respect of Asset-1 and Asset-2 vide order dated 24.1.2021 in Petition No. 69/TT/2020, claimed by the Petitioner in the instant petition and true up in the instant order are as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Approved vide order dated 24.1.2021 in Petition No. 69/TT/2020	45.47	223.09
Claimed by Petitioner in the instant petition	45.50	223.09
Allowed after true-up in this order	45.49	223.08

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

38. O&M Expenses claimed by the Petitioner in respect of the transmission assets for 2014-19 period are as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Total O&M Expenses claimed	44.70	80.12

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

Element	Norms for 2018-19
765 kV Sub-station*	₹96.20 lakh/ bay
400 kV Sub-station	₹68.71 lakh/ bay
400 kV GIS Sub-station	₹58.73 lakh/ bay

**Since the 2014 Tariff Regulations do not provide norms for 765 kV GIS Sub-station the norms for 765 kV Sub-station shall be applied.*

40. We have considered the submissions of the Petitioner. O&M Expenses allowed for the transmission assets as per norms specified in the 2014 Tariff Regulations are as follows:



(₹ in lakh)

Particulars	Asset-1	Asset-2
	2018-19 (pro-rata 32 days)	2018-19 (pro-rata 76 days)
Total O&M Expenses claimed	44.69	80.12

41. The details of O&M Expenses allowed in respect of Asset-1 and Asset-2 vide order dated 24.1.2021 in Petition No. 69/TT/2020, claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

(₹ in lakh)

Particulars	Asset-1	Asset-2
	2018-19 (pro-rata 32 days)	2018-19 (pro-rata 76 days)
Approved <i>vide</i> order dated 24.1.2021 in Petition No. 69/TT/2020	44.68	80.12
Claimed by Petitioner in the instant petition	44.70	80.12
Allowed after true-up in this order	44.69	80.12

Interest on Working Capital (“IWC”)

42. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations in respect of the transmission assets and the same is as follows:

(₹ in lakh)

Particulars	Asset-1	Asset-2
	2018-19 (pro-rata 32 days)	2018-19 (pro-rata 76 days)
O&M Expenses (O&M Expenses for one month)	42.48	32.07
Maintenance Spares (15% of O&M Expenses)	76.46	57.72
Receivables (Equivalent to two months of annual fixed cost)	338.74	584.81
Total Working Capital	457.68	674.60
Rate of Interest (in %)	12.20	12.20
Interest on Working Capital	4.90	17.14

43. The details of IWC allowed in respect of Asset-1 and Asset-2 vide order dated 24.1.2021 in Petition No. 69/TT/2020, claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:



Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Approved <i>vide</i> order dated 24.1.2021 in Petition No. 69/TT/2020	4.89	17.14
Claimed by Petitioner in the instant petition	4.89	17.06
Allowed after true-up in this order	4.90	17.14

Approved Annual Fixed Charges for 2014-19 Period

44. The trued up Annual Fixed Charges (AFC) allowed in respect of the transmission assets for 2014-19 tariff period are as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Depreciation	40.95	202.37
Interest on Loan	42.16	207.91
Return on Equity	45.49	223.08
O&M Expenses	44.69	80.12
Interest on Working Capital	4.90	17.14
Total	178.19	730.62

45. Accordingly, the comparison between Annual Transmission Charges allowed in respect of Asset-1 and Asset-2 *vide* order dated 24.1.2021 in Petition No. 69/TT/2020, claimed by the Petitioner in the instant petition and approved after trueing up in the instant order is as follows:

Particulars	(₹ in lakh)	
	Asset-1 2018-19 (pro-rata 32 days)	Asset-2 2018-19 (pro-rata 76 days)
Approved <i>vide</i> order dated 24.1.2021 in Petition No. 69/TT/2020	178.11	730.63
Claimed by Petitioner in the instant petition	177.89	727.02
Allowed after true-up in this order	178.19	730.62



DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

46. The Petitioner has combined Asset-1 and Asset-2 and has claimed the following transmission charges in respect of the Combined Asset for 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1549.44	1675.04	1731.84	1735.29	1735.29
Interest on Loan	1524.71	1526.52	1451.12	1316.61	1177.23
Return on Equity	1627.77	1760.13	1820.75	1824.43	1824.43
O&M Expenses	344.64	356.78	369.30	382.28	395.68
Interest on Working Capital	85.73	90.39	91.57	90.21	88.48
Total	5132.29	5408.86	5464.58	5348.82	5221.11

47. The Petitioner has combined Asset-1 and Asset-2 and has claimed the following IWC in respect of the Combined Asset for 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for onemonth)	28.72	29.73	30.78	31.86	32.97
Working Capital for Maintenance Spares (15% of O&M Expenses)	51.70	53.52	55.40	57.34	59.35
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/ annual transmission charges)	631.02	666.84	673.71	659.44	641.94
Total Working Capital	711.44	750.09	759.89	748.64	734.26
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	85.73	90.39	91.57	90.21	88.48

Effective Date of Commercial Operation (“E-COD”)

48. The Petitioner has submitted that E-COD of the Combined Asset works out to be 29.1.2019. E-COD has been worked out based on the trued-up capital cost and COD of the individual assets which is as follows:



Assets	Capital Cost as on COD (₹ in lakh)	COD	No. of days from COD from last COD	Weight of cost (in %)	Weighted days	E-COD (latest COD – total weighted days)
Asset-1	9050.35	28.2.2019	0	32.85%	0.00	29.1.2019
Asset-2	18498.93	15.1.2019	44	67.15%	29.55	
Total	27549.28					

49. E-COD is used to determine the lapsed life of the project as a whole which works out as 0 (zero) years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD).

Weighted Average Life (WAL) of the Project

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

51. The Combined Asset 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. 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 2014 Tariff 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, WAL of all the transmission assets executed during 2014-19 period has been worked out as 25 years and the same is as follows:

Particulars	Life (in years) (1)	Capital Cost as on 31.3.2019 (₹ in lakh) (2)	Weighted Cost (₹ in lakh) (3) = (1) * (2)	WAL of Asset (in years) (4) = (3) / (2)
Building & Civil Works	25	21.38	534.49	
Transmission Line	35	0.00	0.00	24.79 years



Particulars	Life (in years) (1)	Capital Cost as on 31.3.2019 (₹ in lakh) (2)	Weighted Cost (₹ in lakh) (3) = (1) * (2)	WAL of Asset (in years) (4) = (3) / (2)
Sub-Station	25	27123.90	678097.45	(rounded off to 25 years)
PLCC	15	188.71	2830.61	
IT Equipment including software	6.67	215.29	1435.29	
Total		27549.28	682897.85	

52. 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 the transmission assets is 29.1.2019 and lapsed life of the project as a whole works out as 0 years as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD). Accordingly, WAL has been used to determine the remaining useful life of the Combined Asset as on 31.3.2019 to be 25 years.

Capital Cost

53. Regulation 19 of the 2019 Tariff Regulations provides 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.”*

54. The Petitioner has claimed capital cost of ₹27550.90 lakh as on 31.3.2019 in respect of the Combined Asset. However, the capital cost as on 31.3.2019 has been worked out as ₹27549.28 lakh as on 31.3.2019.

Additional Capital Expenditure (“ACE”)

55. 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;
- (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 obsolescence of technology; and
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”

56. The Petitioner has claimed the following capital cost including ACE in 2019-24 period:

Particulars	FR apportioned approved cost	Capital cost as on 31.3.2019	Projected ACE			Capital cost as on 31.3.2024
			2019-20	2020-21	2021-22	
Asset-1	14460.90	9051.45	1563.56	1848.82	85.08	12548.91
Asset-2	22848.50	18499.44	1113.69	172.26	45.44	19830.83



Combined Asset	37309.40	27550.89	2677.25	2021.08	130.52	32379.74
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57. The Petitioner has projected the following ACE during 2019-24 tariff period. The proposed ACE is on account of undischarged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date and is claimed under Regulation 24(1) (a) and 24(1)(b) of the 2019 Tariff Regulations.

Years	ACE claimed under Regulation 24(1)(a)(undischarged liabilities)	ACE claimed under Regulation 24(1)(b)(unexecuted work)	Total
2019-20	1612.94	1064.31	2677.25
2020-21	1715.45	305.63	2021.08
2021-22	113.84	16.68	130.52

58. We have considered the submission of the Petitioner. ACE has been allowed under Regulation 24(1)(a) (undischarged liabilities) and Regulation 24(1)(b) (unexecuted work) of the 2019 Tariff Regulations which is as follows:

Assets	Particulars	ACE			Total ACE on 31.3.2024
		2019-20	2020-21	2021-22	
Asset-1	ACE as per Auditor's Certificate	1550.04	1848.82	85.08	3483.94
	Undischarged IDC	12.73	0.00	0.00	12.73
(A) Total Asset-1		1562.77	1848.82	85.08	3496.67
Asset-2	ACE as per Auditor's Certificate	1056.18	172.26	45.44	1273.88
	Undischarged IDC	57.05	0.00	0.00	57.05
(B) Total Asset-2		1113.23	172.26	45.44	1330.93
(C=A+B) Total Combined Asset		2676.00	2021.08	130.52	4827.60

59. Accordingly, capital cost considered in respect of the Combined Asset for 2019-24 tariff period is as follows:



Capital Cost as on 31.3.2019	ACE			(₹ in lakh)
	2019-20	2020-21	2021-22	Capital Cost as on 31.3.2024
27549.28	2676.00	2021.08	130.52	32376.88

Debt-Equity ratio

60. 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:

- 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.”

(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.”

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

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	ACE during 2019-24 (₹ in lakh)	(in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	19284.74	70.00	3379.32	70.00	22664.06	70.00
Equity	8264.53	30.00	1448.28	30.00	9712.81	30.00
Total	27549.28	100.00	4827.60	100.00	32376.88	100.00

Depreciation

62. 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.”

63. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. WAROD has been worked out as Annexure-II as per the rates of depreciation prescribed in 2019 Tariff Regulations. Depreciation allowed for the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block (A)	27549.28	30225.28	32246.36	32376.88	32376.88
Projected ACE (B)	2676.00	2021.08	130.52	0.00	0.00
Closing Gross Block (C) = A+B	30225.28	32246.36	32376.88	32376.88	32376.88
Average Gross Block (D) = (A+C)/2	28887.28	31235.82	32311.62	32376.88	32376.88
Weighted average rate of Depreciation (WAROD) (in %)	5.36	5.36	5.36	5.36	5.36
Balance useful life of the asset at the beginning of the year (Year)	25	24	23	22	21
Lapsed life of the asset at the beginning of the year (year(s))	0	1	2	3	4
Depreciable Value	26021.63	28136.86	29105.08	29163.81	29163.81
Depreciation during the year	1549.31	1674.89	1731.69	1735.13	1735.13
Cumulative Depreciation	1792.63	3467.51	5199.20	6934.33	8669.47
Remaining Depreciable Value	24229.00	24669.35	23905.88	22229.48	20494.35



Interest on Loan (“IoL”)

64. 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.”*

65. The weighted average rate of interest of IoL has been considered on the basis of the rates prevailing as on 1.4.2019. The Petitioner has prayed that 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 truing-up. In view of above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	19284.74	21157.94	22572.70	22664.06	22664.06
Cumulative Repayments up to Previous Year	243.32	1792.63	3467.51	5199.20	6934.33
Net Loan-Opening	19041.43	19365.32	19105.19	17464.86	15729.73
Additions	1873.20	1414.76	91.36	0.00	0.00
Repayment during the year	1549.31	1674.89	1731.69	1735.13	1735.13
Net Loan-Closing	19365.32	19105.19	17464.86	15729.73	13994.60
Average Loan	19203.37	19235.25	18285.03	16597.30	14862.17
Weighted Average Rate of Interest on Loan (in %)	7.9376	7.9337	7.9337	7.9301	7.9182
Interest on Loan	1524.29	1526.06	1450.67	1316.19	1176.82

Return on Equity (“RoE”)

66. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide 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 cut-off 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.”

67. The Petitioner has submitted that MAT rate is applicable to it. Accordingly, 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 in respect of the Combined Asset has been worked out as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity (A)	8264.53	9067.33	9673.66	9712.81	9712.81
Additions (B)	802.80	606.32	39.16	0.00	0.00
Closing Equity (C) = A+B	9067.33	9673.66	9712.81	9712.81	9712.81
Average Equity (D) = (A+C)/2	8665.93	9370.50	9693.24	9712.81	9712.81
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	1627.64	1759.97	1820.58	1824.26	1824.26

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

68. O&M Expenses claimed by the Petitioner in respect of the Combined Asset for 2019-24 period are as follows:



(₹ in lakh)

Name of the Assets	2019-20	2020-21	2021-22	2022-23	2023-24
4 Numbers of 400 kV GIS bays at Cuddapah	90.02	93.18	96.46	99.84	103.34
4 Numbers of 400 kV bays at Madhugiri	128.60	133.12	137.60	142.64	147.64
4 Numbers of 765 kV GIS bays at Vemagiri	126.02	130.48	135.04	139.80	144.70
Total O&M Expenses	344.64	356.78	369.30	382.28	395.68

69. The norms specified under Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

“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					



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)</i>	834	864	894	925	958
<i>Gazuwaka HVDC Back-to-Back station (Rs. Lakh per 500 MW)</i>	1,666	1,725	1,785	1,848	1,913
<i>500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)</i>	2,252	2,331	2,413	2,498	2,586
<i>±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)</i>	2,468	2,555	2,645	2,738	2,834
<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh)(3000 MW)</i>	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- (i) the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed 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.”

70. We have considered the submissions of the Petitioner. O&M Expenses have been worked out as per the norms specified in the 2019 Tariff Regulations and the same are as follows:

(₹ in lakh)					
Name of the Assets	2019-20	2020-21	2021-22	2022-23	2023-24
4 Numbers of 400 kV GIS bays at Cuddapah	90.02	93.18	96.46	99.84	103.34
4 Numbers of 400 kV bays at Madhugiri	128.60	133.12	137.60	142.64	147.64
4 Numbers of 765 kV GIS bays at Vemagiri	126.02	130.48	135.04	139.80	144.70
Total O&M Expenses	344.65	356.78	369.30	382.29	395.69

* The Petitioner has not claimed any O&M expenses towards PLCC.

Interest on Working Capital (“IWC”)

71. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify 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:-*

‘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;”*

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

73. 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, RoI for 2020-21 has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas, RoI for 2021-22 onwards has been considered 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:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for one month)	28.72	29.73	30.78	31.86	32.97
Maintenance Spares (15% of O&M Expenses)	51.70	53.52	55.40	57.34	59.35
Receivables (Equivalent to 45 days of annual transmission charges)	630.93	666.00	672.15	657.90	640.43
Total Working Capital	711.35	749.25	758.32	747.10	732.76
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	85.72	84.29	79.62	78.45	76.94



Annual Fixed Charges for 2019-24 Tariff Period

74. The transmission charges allowed in respect of the Combined Asset for 2019-24 tariff period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1549.31	1674.89	1731.69	1735.13	1735.13
Interest on Loan	1524.29	1526.06	1450.67	1316.19	1176.82
Return on Equity	1627.64	1759.97	1820.58	1824.26	1824.26
O&M Expenses	344.65	356.78	369.30	382.29	395.69
Interest on Working Capital	85.72	84.29	79.62	78.45	76.94
Total	5131.61	5401.99	5451.86	5336.32	5208.84

Filing Fees and Publication Expenses

75. The Petitioner has sought reimbursement of fees 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 Fees & RLDC Fees and Charges

76. The Petitioner shall be entitled for reimbursement of licence fees 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 fees and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Goods and Services Tax

77. The Petitioner has submitted that GST, if 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.

78. 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

79. The Petitioner has submitted that security expenses in respect of the transmission 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.

80. We have considered the submissions of the 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. The Commission vide order dated 3.8.2021 in Petition No. 260/MP/2020 has approved security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. 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

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



Sharing of Transmission Charges

82. The Petitioner has submitted that the transmission charges for 2014-19 period shall be recovered on monthly basis in accordance with Regulation 42 and shall be shared by the Respondents in accordance with Regulation 43 of the 2014 Tariff Regulations, and will be shared by the beneficiaries and long-term transmission customers as per Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 dated 15.6.2010 and amendments thereof. The Petitioner has further submitted that the tariff for transmission of electricity (Annual Fixed Cost) for 2019-24 will be recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and will be shared by the beneficiaries and long-term transmission customers as per Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 and as amended from to time.

83. TANGEDCO has submitted as follows:

- a) The Petitioner has executed part of the transmission system, wherein some elements are executed by POWERGRID Southern Interconnector Transmission System Limited(PSITSL), subsidiary of the Petitioner, under TBCB route. The Petitioner is well aware of the fact that there is a delay in execution of the Vemagiri II-Chilakaluripeta 765 kV D/C line due to RoW issues as stated by PSITSL. The intended purpose of the line bays and the switchable line reactors could be served only on execution of the associated transmission lines. The Petitioner has failed to execute the transmission line bays and line reactors matching with the anticipated COD of the associated transmission lines.
- b) As per the Tariff Regulations, IEGC Regulations and Sharing Regulations it is established that if two transmission systems are interdependent and if one of the transmission systems is delayed then the cost has to be borne by



the delayed transmission system. In instant case, delay was discussed in Petition No.13/MP/2021 and the Commission vide order dated 7.5.2022 has not condoned the delay of the lines under TBCB route executed by PSITSL.

- c) Since the line reactors and line bays were made ready well in advance of the completion of the transmission lines, the Petitioner had approached RPC to utilise the line reactor as bus reactor, in addition to the already existing two numbers of bus reactors, and two numbers of line reactors being used as bus reactors. There is no technical justification for having six bus reactors in a sub-station which is connected with only two numbers 765 kV lines (Vemagiri-Srikakulam 765 kV D/C) in the absence of Vemagiri II-Chilakaluripeta 765 kV D/C line. Neither the Petitioner nor the system operator has reported any over voltage issues in Vemagiri-II Sub-station. The simulation exhibit depicts that the Petitioner is attempting to justify the utilisation of line reactors by reducing the bus voltage from 772 kV to 752 kV (below the rated voltage) at Vemagiri-II Sub-station and from 779 kV to 770 kV at Srikakulam Sub-station. The approach of the Petitioner is unjustifiable. The Petitioner has not provided any real time data of bus voltages recorded in Vemagiri-II Sub-station, Srikakulam Sub-station and Angul Sub-station during the period from 15.1.2019 to 16.1.2020 so as to justify that the operation of 6 numbers bus reactors were essential to keep the bus voltage within the allowable range.
- d) The Petitioner is in the habit of approaching the RPCs for commercial benefits wherever there is a mismatch in executing the project by other agencies, instead of acting as per the Regulations and agreements.
- e) The commercial aspect of shifting the tariff liability from PSITSL to the beneficiaries was not deliberated in the SRPC meeting and none of the beneficiaries concurred to relieve the TSP from the tariff liability.
- f) Even though the Commission has accorded tariff for the 2 numbers switchable line reactors, since there was a delay in completion of the transmission lines by PSITSL, the TSP is liable to pay the transmission charges irrespective of the technical benefit reaped as advocated by the



Petitioner. There is no reason for relieving the TSP from the tariff liability for their default.

- g) That in the absence of the Vemagiri II-Chilakaluripeta 765 kV D/C line due to delayed commissioning by PSITSL, the tariff of the line bays and the line reactors (Asset-2) have to be billed bilaterally to the defaulting entity i.e. PSITSL from 15.1.2019 till the COD of the associated transmission system i.e, on 16.1.2020, irrespective of usage of the line reactors and line bays intended for the transmission lines.
- h) The financial implication of the delay in COD of the line bays and reactors should be fastened to the TSP as held by the Commission vide order dated 7.5.2022 in Petition No.13/MP/2021.
- i) Under these circumstances, the order dated 24.1.2021 in Petition No. 69/TT/2020 in determining the tariff and sharing of the transmission charges, are to be trued up, as required under the Regulations of the Commission, based on the order of the Commission dated 7.5.2022 in Petition No. 13/MP/2021, so that the beneficiaries are relieved of the unwarranted tariff burden imposed on them for the default of the subsidiary of the Petitioner and the Petitioner itself.

84. In response, the Petitioner vide affidavit dated 20.7.2022 and 23.8.2022 has submitted that the Commission *vide* its order dated 24.1.2021 in Petition No. 69/TT/2020 has approved the transmission tariff for the transmission assets for 2014–19 tariff period. The Petitioner has further submitted that the over voltage problem at 765 kV Vemagiri Sub-station was deliberated in SRPC, wherein based on the SRLDC studies, it was concluded that with 2X240 MVAR Reactors in service (additional) and voltages at 765 kV Vemagiri Sub-station would come down by 20 kV while at 765 kV Srikakulam Sub-station would come down by 10 kV from the prevailing grid profile. Accordingly, SRPC approved the declaration of COD of referred bays along with



reactors, due to utilization of line reactor as Bus reactor at Vemagiri, subject to approval of Standing Committee for the purpose. The subject matter was deliberated at 2nd SCM meeting dated 10.5.2019, wherein after detailed deliberations, members agreed to the proposal. Subsequently, in 36th SRPC meeting held on 12.7.2019, the utilization of said assets and its COD was ratified by TCC and RPC after deliberation of the same. The utilization of Asset-2 was approved based on system studies including SRLDC studies and concurrence from RPC and SCM, for which tariff for 2014-19 tariff period has already been approved by the Commission vide order dated 24.1.2021 in Petition No. 69/TT/2020. In case of Asset-1, the line was put to commercial operation along with the bay and Asset-2 is in use from COD and power is flowing, hence, there is no question of liability on the defaulting party.

85. We have considered the submission of the Petitioner and TANGEDCO. TANGEDCO has contended that the transmission charges of Asset-2 from SCOD till COD of the transmission line i.e. Vemagiri II-Chilakaluripeta 765 kV D/C shall be borne by PSITSL.

86. The Commission vide order dated 24.1.2021 in Petition No.69/TT/2020 had approved the execution of 2x240 MVAR line reactors as bus reactors along with associated bays at Vemagiri based on the minutes of meeting of 2nd SRSCT. It is further observed that minutes of the 36th meeting of SRPC held on 12.7.2019 wherein TANGEDCO was also present and not raised any objection about charging of line reactors as bus reactors. COD of Asset-2 was approved after considering minutes of RPC and TCC meetings. The issues raised by TANGEDCO were settled vide order dated 24.1.2021 in Petition No. 69/TT/2020 and TANGEDCO has not filed any Review



Petition and also not challenged the order. The COD of Asset-2 has attained finality. Therefore, the contentions of TANGEDCO are rejected.

87. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission system was governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010. However, after repeal of the 2010 Sharing Regulations, on 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 ('the 2020 Sharing Regulations'). COD of Asset-1 and Asset-2 has been approved as 28.2.2019 and 15.1.2019. Therefore, the transmission charges from COD of Asset-1 and Asset-2 up to 31.10.2020 shall be governed by the 2010 Sharing Regulations and from 1.11.2020 shall be governed by the 2020 Sharing Regulations. Accordingly, the liabilities of the DICs for arrears of the transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of the respective Sharing Regulations and shall be recovered from the concerned DICs through bill under Regulation 15(2)(b) of the 2020 Sharing Regulations. The bills for the subsequent billing periods shall be raised in accordance with the provisions of Regulation 15(2)(a) (first bill to the DICs) of the Central Electricity Regulatory Commission (Sharing of interstate transmission Charges and Losses) Regulations, 2020.

88. To summarise:

- a. The trued-up AFC allowed in respect of the transmission assets for 2014-19 period are as follows:



(₹ in lakh)	
Assets	2018-19 (pro-rata)
Asset-1(pro-rata 32 days)	178.19
Asset-2(pro-rata 76 days)	730.62

b. AFC allowed in respect of the Combined Asset for 2019-24 tariff period in this order are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	5131.61	5401.99	5451.86	5336.32	5208.84

89. Annexure-I and Annexure-II to this order form part of the order.

90. This order disposes of Petition No. 209/TT/2021 in terms of the above findings and discussions.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I.S. Jha)
Member



Asset-1

2014-19	Capital Cost as on 1.4.2014 / COD (₹ in lakh)	ACE (₹ in lakh)					Allowed ACE (₹ in lakh)	Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation	Depreciation as per Regulations				
		2014-19	2015-16	2016-17	2017-18	2018-19				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	0.00	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	0.00	0.00	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	0.00	0.00	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Transmission Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.33%	0.00	0.00	0.00	0.00	0.00
Sub Station	8326.75	0.00	0.00	0.00	0.00	573.13	573.13	8899.88	6.33%	0.00	0.00	0.00	0.00	454.78
PLCC	92.32	0.00	0.00	0.00	0.00	19.32	19.32	111.64	6.33%	0.00	0.00	0.00	0.00	6.46
IT Equipment (Incl. Software)	38.70	0.00	0.00	0.00	0.00	0.14	0.14	38.83	15.00%	0.00	0.00	0.00	0.00	5.81
Total	8457.77	0.00	0.00	0.00	0.00	592.58	592.58	9050.35	Total	0.00	0.00	0.00	0.00	467.05
Average Gross Block (₹ in lakh)										0.00	0.00	0.00	0.00	8754.06
Weighted Average Rate of Depreciation										0.00%	0.00%	0.00%	0.00%	5.34%

Asset-2



2014-19		ACE (₹ in lakh)							Depreciation as per Regulations					
Capital Cost	Capital Cost as on 1.4.2014 / COD (₹ in lakh)	2014-19	2015-16	2016-17	2017-18	2018-19	Allowed ACE (₹ in lakh)	Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation	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	0.00	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	21.36	0.00	0.00	0.00	0.00	0.02	0.02	21.38	3.34%	0.00	0.00	0.00	0.00	0.71
Transmission Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.33%	0.00	0.00	0.00	0.00	0.00
Sub Station	17376.42	0.00	0.00	0.00	0.00	847.60	847.60	18224.02	6.33%	0.00	0.00	0.00	0.00	939.85
PLCC	77.00	0.00	0.00	0.00	0.00	0.07	0.07	77.07	6.33%	0.00	0.00	0.00	0.00	4.88
IT Equipment (Incl. Software)	176.30	0.00	0.00	0.00	0.00	0.16	0.16	176.46	15.00%	0.00	0.00	0.00	0.00	26.46
Total	17651.08	0.00	0.00	0.00	0.00	847.85	847.85	18498.93	Total	0.00	0.00	0.00	0.00	971.90
Average Gross Block (₹ in lakh)										0.00	0.00	0.00	0.00	18075.00
Weighted Average Rate of Depreciation										0.00%	0.00%	0.00%	0.00%	5.38%

Annexure-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)					
		2019-24	2020-21	2021-22	2022-23	2023-24	Total			2019-20	2020-21	2021-22	2022-23	2023-24	
Land - Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Land - Leasehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00	
Building Civil Works & Colony	21.38	0.07	0.00	0.00	0.00	0.00	0.07	21.45	3.34%	0.72	0.72	0.72	0.72	0.72	
Transmission Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.28%	0.00	0.00	0.00	0.00	0.00	
Sub Station	27123.90	2632.06	2021.08	130.52	0.00	0.00	4783.66	31907.56	5.28%	1501.63	1624.47	1681.27	1684.72	1684.72	
PLCC	188.71	12.94	0.00	0.00	0.00	0.00	12.94	201.65	6.33%	12.35	12.76	12.76	12.76	12.76	
IT Equipment (Incl. Software)	215.29	30.93	0.00	0.00	0.00	0.00	30.93	246.22	15.00%	34.61	36.93	36.93	36.93	36.93	
Total	27549.28	2676.00	2021.08	130.52	0.00	0.00	4827.60	32376.88		1549.31	1674.89	1731.69	1735.13	1735.13	
										Average Gross Block (₹ in lakh)	28887.28	31235.82	32311.62	32376.88	32376.88
										Weighted Average Rate of Depreciation	5.36%	5.36%	5.36%	5.36%	5.36%

