CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Petition No. No. 92/TT/2022

Coram:

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

Date of Order: 30.11.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing 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 (01 number) under "Split Bus arrangement for various Sub-station" in the Eastern Region.

And in the matter of:

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

.....Petitioner

Versus

- Bihar State Power (Holding) Company Limited, (Formerly Bihar State Electricity Board -BSEB), Vidyut Bhavan, Bailey Road, Patna-800001.
- West Bengal State Electricity Distribution Company Limited, Bidyut Bhawan, Bidhan Nagar, Block DJ, Sector-II, Salt Lake City, Calcutta-700091.
- 3 Grid Corporation of Orissa Limited,Shahid Nagar,Bhubaneswar-751007.
- 4 Damodar Valley Corporation, DVC Tower, Maniktala, Civic Centre, VIP Road, Calcutta-700054.



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5 Power Department. Government of Sikkim,

Gangtok-737101.

Jharkhand State Electricity Board, 6 In front of Main Secretariat, Doranda,

Ranchi-834002.

NTPC Limited.

NTPC Bhawan, Core-7, Scope Complex,

7, Institutional Area, Lodhi Road,

New Delhi-110003.

...Respondent(s)

For Petitioner:

Shri B.B. Rath, PGCIL

Shri Mukesh Khanna, PGCIL

Shri D. K. Biswal, PGCIL

For Respondent: Shri Vijendra Singh, NTPC

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 400 kV transmission line for reconfiguration of Biharsharif Ckt III and IV from

present location to the Stage II side of Kahalgaon Switchyard of NTPC (hereinafter

referred to as "the transmission asset") under "Split Bus arrangement for various Sub-

station" in the Eastern Region (hereinafter referred to as "the transmission project").

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- 2. The Petitioner has made the following prayers in the instant petition:
 - "1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the asset-I covered under this petition, as per para 9.1 and 10.0 above.
 - 2) Approve the Completion cost and additional capitalization incurred during 2014-19.
 - 3) Admit the capital cost as claimed in the Petition and approve the Additional Capitalization projected to be incurred.
 - 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 9.1 and 10.0 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 claim the capital spares at the end of tariff block as per actual.
 - 9) Allow the petitioner to claimed initial spare as claimed.
 - 10) Allow the petitioner to claimed IEDC as per actual expenditure.
 - 11) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 10.7 above.
 - 12) 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) and expenditure sanction for the transmission asset was accorded by the Board of Directors of the Petitioner company in its 285th meeting held on 28.3.2013 at an estimated cost of ₹13516 lakh including IDC of ₹514 lakh based on February, 2013 price level (communicated vide Memorandum Ref No. C/CP/Split bus arrangements in ER dated 5.4.2013). Further, the Revised Cost Estimate (RCE) of the transmission asset was accorded in its 324th meeting held on 12.1.2016 vide Memorandum No. C/CP/RCE-Split Bus Arrangement in ER dated 1.2.2016 at an estimated cost of ₹14673 lakh including IDC of ₹859 lakh based on June, 2015 price level.
- b. The scope of work under the transmission project is as follows:

Sub-stations

To carry out splitting arrangements with tie line breaker for the following 400 kV Sub-stations in Eastern Region to contain the short level below 40 kA

- Maithan
- Durgapur
- Biharsharif

Transmission Lines

- 400 kV transmission line for swapping of Purnea bays (1 and 2) with Sasaram bays (# 3 and 4) and Kahalgaon # 1 bay with Sasaram # 1 bay at Biharsharif Sub-station
- 400 kV transmission line for reconfiguration of Biharsharif Ckt III and IV from its present position to Stage-II side of Kahalgaon Switchyard of NTPC.
- c. The complete scope of the works under the transmission project as per IA has been completed. The status of execution of various transmission assets and tariff granted under various petitions for the transmission assets covered under the transmission project is as follows:

SI. No.	Name of Assets	Actual COD	Petition No.
1	400 kV transmission line for Swapping of Kahalgaon 1 bay with Sasaram 1 bay at Biharsharif Sub-station.	9.1.2016 (Effective- COD)	Tariff determined vide order dated 29.4.2016 in Petition No. 136/TT/2015 and vide
	(COD: 2.4.2015)		order dated 3.5.2018

SI. No.	Name of Assets	Actual COD	Petition No.
	{therein referred as Asset-I}		in Petition No. 49/TT/2018 and trued
2	400 kV transmission line for Swapping of Purnea (1&2) Bays with Sasaram bays (3&4) at Biharsharif Sub-station.		up vide order dated 27.1.2021 in Petition No. 512/TT/2021)
	(COD: 21.7.2016) {therein referred as Asset-II}		
3	Split Bus arrangement with tie line breaker for 400 kV Biharsharif Substation		
	(COD: 15.5.2017) {therein referred as Asset-III}		
4	Split Bus arrangement at Durgapur Sub-station. (COD: 14.10.2015) {therein referred as Asset-IV}		
5	Split Bus arrangement at Maithon Substation. (COD: 17.1.2016) {therein referred as Asset-V}		
6	400 kV Transmission Line for reconfiguration of Biharsharif Ckt III and IV from present location to the Stage II side of Kahalgaon Switchyard of NTPC	26.1.2019	Covered under instant petition (Tariff determined vide order dated 27.12.2021 in Petition No. 75/TT/2020 for 2014-19 tariff period.)

- d. Tariff for the transmission asset was determined vide order dated 27.12.2021 in Petition No. 75/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 Eastern Region.
- 5. The Petitioner has served a copy of the petition upon 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 notices published by the Petitioner. None of the respondents have filed reply in the matter.

- 6. Hearing in this matter was held on 14.9.2022 and order was reserved.
- 7. This order has been issued after considering the main Petition vide affidavit dated 28.2.2022 and Petitioner's affidavit dated 1.8.2022.
- 8. Having heard the representatives of the Petitioner and perused the material on record, we proceed to dispose of the petition.

TRUING UP OF ANNUAL FIXED CHARGES OF 2014-19 PERIOD

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

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
Depreciation	33.95
Interest on Loan	37.81
Return on Equity	38.12
O&M Expenses	1.89
Interest on Working Capital	2.37
Total	114.14

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

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
O&M Expenses	0.88
Maintenance Spares	1.59
Receivables	106.83
Total Working Capital	109.30
Rate of Interest (in %)	12.20
Interest on Working Capital	2.37

Capital Cost

- 11. The capital cost of the transmission asset has been calculated in accordance with the Regulation 9(3) of the 2014 Tariff Regulations.
- 12. The Commission vide order dated 27.12.2021 in Petition No. 75/TT/2020 allowed the capital cost as on date of commercial operation (COD) and admitted Additional Capital Expenditure (ACE) for determination of tariff for 2014-19 period. The details of the same are as follows:

(₹ in lakh)

FR Apportioned	RCE Approved	Capital Cost	ACE allowed	Capital cost as
Approved Cost	Cost	upto COD	2014-19	on 31.3.2019
4060.75	4362.76	3575.22	72.02	3647.24

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

(₹ in lakh)

FR Apportioned	RCE Approved	Capital Cost	ACE	Capital cost as
Approved Cost	Cost	upto COD	2018-19	on 31.3.2019
4060.75	4362.76	3575.22	72.02	3647.24

14. The estimated completion cost as on 31.3.2019 is within the FR approved cost.

Time over-run

15. As per IA dated 28.3.2013, the scheduled date of commissioning of the transmission asset was within 15 months from the date of IA i.e. by 28.6.2014, against which the transmission asset was put into commercial operation with effect from 26.1.2019. Thus, there was time over-run of 1673 days in execution of the transmission asset.

- 16. The Commission vide order dated 27.12.2021 in Petition No. 75/TT/2020 has partially condoned the time over-run. The relevant extract and details of time over-condoned/ not condoned in the said order is as follows:
 - "39. To sum up, time over-run of 420 days i.e. from 28.6.2014 to 6.6.2015 and from 17.7.2018 to 30.9.2018 is not condoned in view of the foregoing discussion, while time over-run of 1136 days i.e. from 7.6.2015 to 16.7.2018 is condoned as it was due to RoW issues which was beyond the control of the Petitioner. As regards the time overrun of 117 days i.e. from 1.10.2018 to 25.1.2019, the same is not condoned, but the IDC and IEDC for the period shall be borne by NTPC and shall not be capitalised.

40. In view of the above, the details of the time over-run condoned and not condoned in case of the transmission asset is as follows:

COD	Time over-run	Time over-run condoned	Time over-run not condoned	
26.1.2019	1673	1136	537*	

^{*}For the time over-run of 117 days i.e. from 1.10.2018 to 25.1.2019, IDC and IEDC shall be borne by NTPC and shall not be capitalised."

<u>Interest During Construction ("IDC") and Incidental Expenditure During</u> Construction ("IEDC")

17. The Petitioner has claimed IDC in respect of the transmission asset covered in the instant petition and has submitted statement showing IDC claim, discharge of IDC liability as on COD and thereafter is as follows:

(₹ in lakh)

IDC as per Auditor's IDC Discharged upto Accrual IDC Dischar				Discharged
	Certificate	COD	2018-19	2019-20
	836.92	738.24	29.11	69.57

18. We have considered the submissions of the Petitioner. IDC has been computed as per the submissions in the petition. IDC considered in respect of the transmission asset as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination is as follows:

IDC as per	IDC disallowed due	IDC allowed in	IDC	Accrual IDC
Auditor's	to time over-run	the instant	Discharged	Discharged
Certificate	not condoned	order	upto COD	2014-19
836.92	313.55	523.37	523.37	0.00

19. The Petitioner has claimed IEDC in respect of the transmission asset 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 the COD. IEDC has been computed as per the submissions in the petition. IEDC claimed as per Auditor's Certificate, IEDC considered and discharged up to COD in respect of the transmission asset is as follows:

(₹ in lakh)

IEDC claimed as per Auditor's certificate	IEDC disallowed due to time over- run not condoned	IEDC allowed	IEDC discharged upto COD
496.59	125.20	371.39	371.39

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
 - (i) Transmission line 1.00%
 - (ii) Transmission Sub-station (Green Field) 4.00%
 - (iii) Transmission Sub-station (Brown Field) 6.00%
 - (iv) Series Compensation devices and HVDC Station 4.00%
 - (v) Gas Insulated Sub-station (GIS)- 5.00%
 - (vi) Communication system 3.5%"
- 21. Initial Spares claimed by the Petitioner are as follows:

Plant and Machinery cost for calculation	Initial Spares claimed (B)	Ceiling limit as per Regulations	Allowable Initial Spares worked out	
of Initial Spares (A) (₹ in lakh)	(₹ in lakh)	(in %) (C)	D = [(A-B)*C/(100- C)] (₹ in lakh)	
2774.94	27.00	1.00	27.76	

22. We have considered the submissions of the Petitioner. Initial Spares claimed by Petitioner is within the norm of 1% specified in Regulation 13(d) of the 2014 Tariff

Regulations. Initial Spares allowed in respect of the transmission asset as percentage specified in the 2014 Tariff Regulations is as follows:

Plant and Machinery cost for calculation	Initial Spares claimed (B)	Ceiling limit as per the 2014 Tariff	Allowable Initial Spares worked out	Initial Spares
of Initial Spares (A) (₹ in lakh)	(₹ in lakh)	Regulations (in %) (C)	D = [(A- B)*C/(100-C)] (₹ in lakh)	order
2774.94	27.00	1.00	27.76	27.00

23. Capital cost as on COD after the adjustments of IDC, IEDC and Initial Spares is as follows:

(₹ in lakh)

Capital cost as per Auditor's Certificate (A)	IDC disallowed (B)	IEDC disallowed (C)	Excess Initial Spares (D)	Capital cost allowed as on COD (E=A-B-C-D)
3915.29	313.55	125.20	0.00	3476.55

Additional Capital Expenditure ("ACE")

- 24. The Commission allowed ACE of ₹72.02 lakh in respect of the transmission asset vide order dated 27.12.2021 in Petition No. 75/TT/2020.
- 25. The Petitioner has claimed the same ACE as approved vide order dated 27.12.2021 in Petition No. 75/TT/2020.
- 26. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) (undischarged liabilities recognized to be payable at a future date) 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 asset covered in the instant petition are as follows:

RCE Approved cost	Capital cost allowed	ACE	Capital cost allowed	
NOL Approved cost	as on COD	2018-19	as on 31.3.2019	
4362.76	3476.55	72.02	3548.57	

Debt-Equity ratio

27. 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 asset as on COD and 31.3.2019 are as follows:

(₹ in lakh)

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	2433.58	70.00	50.41	70.00	2484.00	70.00
Equity	1042.96	30.00	21.61	30.00	1064.57	30.00
Total	3476.55	100.00	72.02	100.00	3548.57	100.00

Depreciation

28. Depreciation has been dealt with in line of Regulation 27 of 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 after considering the depreciation rates of the transmission asset as prescribed in the 2014 Tariff Regulations and depreciation allowed during 2014-19 tariff period in respect of the transmission asset are as follows:

Particulars	2018-19 (pro-rata 65 days)
Depreciation	
Opening Gross Block (A)	3476.55
ACE(B)	72.02
Closing Gross Block (C) = A+B	3548.57
Average Gross Block (D) = (A+C)/2	3512.56
Weighted Average Rate of Depreciation (WAROD) (in %)	5.28
Balance useful life of the asset (Year)	35.00
Lapsed Life of the asset (Year)	0.00

Particulars	2018-19 (pro-rata 65 days)
Depreciable Value	3161.30
Combined Depreciation during the year	33.03
Cumulative Depreciation at the end of the year	33.03
Remaining Depreciable Value at the end of the year	3128.27

29. The details of depreciation allowed vide order dated 27.12.2021 in Petition No. 75/TT/2020, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2018-19 (pro-rata 65 days)
Approved <i>vide</i> order dated 27.12.2021 in Petition No. 75/TT/2020	33.96
Claimed by Petitioner in the instant petition	33.95
Allowed after true-up in the instant order	33.03

Interest on Loan ("IoL")

30. 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 asset are as follows:

Particulars	2018-19 (pro-rata 65 days)
Interest on Loan	
Gross Normative Loan	2433.58
Cumulative Repayments up to Previous Year	0.00
Net Loan-Opening	2433.58
Additions	50.41
Repayment during the year	33.03
Net Loan-Closing	2450.97
Average Loan	2442.28
Weighted Average Rate of Interest on Loan (in %)	8.4554
Interest on Loan	36.77

31. The details of IoL approved vide order dated 27.12.2021 in Petition No. 75/TT/2020, claimed by the Petitioner in the instant petition and as trued up in the instant order is as follows:

(₹ in lakh)

Particulars	2018-19 (pro-rata 65 days)
Approved vide order dated 27.12.2021 in Petition No. 75/TT/2020	37.53
Claimed by Petitioner in the instant petition	37.81
Allowed after true-up in the instant order	36.77

Return on Equity ("RoE")

32. The Petitioner has claimed RoE in respect of the transmission asset 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 [(Base Rate)/(1-t)] (in %)
2014-15	20.961	19.610
2015-16	21.342	19.705
2016-17	21.342	19.705
2017-18	21.342	19.705
2018-19	21.549	19.758

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

Year Notified MAT rates (in %)		Effective tax (in %)
	(inclusive of surcharge & cess)	
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

34. 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 (inclusive of surcharge & cess) (in %)	Base rate of RoE (in %)	Grossed up RoE [(Base Rate)/(1-t)] (in %)
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

35. 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 asset and the same is as follows:

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
Return on Equity	
Opening Equity (A)	1042.96
Additions (B)	21.61
Closing Equity (C) = A+B	1064.57
Average Equity (D) = $(A+C)/2$	1053.77
Return on Equity (Base Rate) (in %)	15.500
MAT Rate for respective year (in %)	21.549
Rate of Return on Equity (in %)	19.758
Return on Equity	37.08

36. The details of RoE allowed vide order dated 27.12.2021 in Petition No. 75/TT/2020, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
Approved <i>vide</i> order dated 27.12.2021 in Petition No. 75/TT/2020	38.12

Particulars	2018-19 (pro-rata 65 days)	
Claimed by the Petitioner in the instant petition	38.12	
Allowed after true-up in the instant order	37.08	

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

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

	(₹ in lakh)
Particulars	2018-19
	(pro-rata 65 days)
400 kV transmission line for reconfiguration of Biharsharif	42.450
Circuit III and Circuit IV from present location to the Stage II side of Kahalgaon Switchyard of NTPC (km)	13.152
Norms (₹ lakh/km)	0.806
Total O&M Expenses (₹ in lakh)	1.89

38. 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 asset are as follows:

Elements	2018-19
Double circuit (Twin & Triple conductor) (₹ in lakh per km)	0.806

39. We have considered the submissions of the Petitioner. O&M Expenses allowed in respect of the transmission asset as per norms specified in the 2014 Tariff Regulations and the same are as follows:

Particulars	2018-19 (pro-rata 65 days)
400 kV transmission line for reconfiguration of Biharsharif Circuit III & Circuit IV from present location to the Stage II side of Kahalgaon Switchyard of NTPC (km)	13.152
Norms (₹ lakh/km)	0.806
Total O&M Expenses (₹ in lakh)	1.89

40. The details of O&M Expenses allowed vide order dated 27.12.2021 in Petition No. 75/TT/2020, claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
Approved <i>vide</i> order dated 27.12.2021 in Petition No. 75/TT/2020	1.89
Claimed by the Petitioner in the instant petition	1.89
Allowed after true-up in the instant order	1.89

Interest on Working Capital ("IWC")

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

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
Working Capital for O&M Expenses (O&M Expenses for one month)	0.88
Working Capital for Maintenance Spares (15% of O&M Expenses)	1.59
Working Capital for Receivables (Equivalent to two months of annual fixed cost)	103.96
Total Working Capital	106.43
Rate of Interest (in %)	12.20
Interest on Working Capital	2.31

42. The details of IWC allowed vide order dated 27.12.2021 in Petition No. 75/TT/2020, claimed by the Petitioner in the instant petition and trued up in the instant order is as follows:

	(₹ in lakh)
Particulars	2018-19 (pro-rata 65 days)
Approved <i>vide</i> order dated 27.12.2021 in Petition No. 75/TT/2020	2.37
Claimed by the Petitioner in the instant petition	2.37

Particulars	2018-19 (pro-rata 65 days)
Allowed after true-up in the instant order	2.31

Approved Annual Fixed Charges for 2014-19 Period

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

	(₹ in lakh)
Particulars	2018-19
Particulars	(pro-rata 65 days)
Depreciation	33.03
Interest on Loan	36.77
Return on Equity	37.08
O&M Expenses	1.89
Interest on Working Capital	2.31
Total	111.08

44. Accordingly, the Annual Transmission Charges allowed vide order dated 27.12.2021 in Petition No. 75/TT/2020, claimed by the Petitioner in the instant petition and approved after truing up in the instant order is as follows:

Particulars

Particulars

(₹ in lakh)

2018-19
(pro-rata 65
days)

Approved *vide* order dated 27.12.2021 in Petition
No. 75/TT/2020

Claimed by the Petitioner in the instant petition
Allowed after true-up in this order

111.08

<u>DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD</u>

45. The Petitioner has claimed the following transmission charges in respect of the transmission asset for 2019-24 tariff period:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	194.46	196.90	198.97	200.49	200.49
Interest on Loan	206.05	191.45	178.28	164.49	147.06
Return on Equity	207.52	210.13	212.34	213.96	213.96
O&M Expenses	11.59	11.99	12.42	12.85	13.30
Interest on Working Capital	9.65	9.55	9.43	9.29	9.02



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Total	629.27	620.02	611.44	601.08	583.83

46. The Petitioner has claimed the following IWC in respect of the transmission asset for 2019-24 tariff period:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24	
Working Capital for O&M						
Expenses (O&M Expenses	0.97	1.00	1.04	1.07	1.11	
for one month)						
Working Capital for						
Maintenance Spares (15% of	1.74	1.80	1.86	1.93	2.00	
O&M Expenses)						
Working Capital for						
Receivables (Equivalent to 45	77.37	76.44 75.38	75.38	74.11	71.78	
days of annual fixed cost/	11.31	70.44	75.56	74.11	71.76	
annual transmission charges)					1	
Total Working Capital	80.08	79.24	78.28	77.11	74.89	
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05	
Interest on Working Capital	9.65	9.55	9.43	9.29	9.02	

Capital Cost

- 47. 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;
- (I) 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 decapitalised 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."
- 48. The Petitioner has claimed capital cost of ₹3647.24 lakh as on 31.3.2019. The capital cost of ₹3548.57 lakh as on 31.3.2019 has been worked out by the Commission.

Additional Capital Expenditure ("ACE")

49. 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 23of 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."
- 50. The Petitioner has claimed the following ACE during 2019-24 tariff period:

				(III lakii)
2019-20	2020-21	2021-22	2022-23	2023-24
71.49	20.84	57.67	0.00	0.00

- 51. The Petitioner has submitted that the cut-off date for the transmission asset is 31.3.2022. ACE incurred till cut-off date for 2019-24 tariff period will be governed by Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations.
- 52. The Petitioner has claimed the following capital cost as on 31.3.2024:

(₹ in lakh)

RCE Apportioned Approved	Capital cost as on		ACE				
cost	31.3.2019	2019-20	2020-21	2021-22	2022-23	2023-24	
4362.76	3647.24	71.49	20.84	57.67	0.00	0.00	3797.24

53. We have considered the submissions of the Petitioner. ACE has been allowed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The Petitioner is directed to submit Regulation wise details of ACE claimed at the time of truing. ACE allowed for 2019-24 tariff period is as follows:

(₹ in lakh)

RCE Apportioned Approved	Capital cost as on 31.3.2019		ACE				
cost		2019-20	2020-21	2021-22	2022-23	2023-24	
4362.76	3548.57	71.49	20.84	57.67	0.00	0.00	3698.57

Debt-Equity ratio

54. 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."
- 55. 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:

(₹ in lakh)

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	2484.00	70.00	105.00	70.00	2589.00	70.00
Equity	1064.57	30.00	45.00	30.00	1109.57	30.00
Total	3548.57	100.00	150.00	100.00	3698.57	100.00

Depreciation

- 56. 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 decapitalized 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."
- 57. 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 and is placed as Annexure-II as per the rates of depreciation prescribed in 2019 Tariff Regulations. Depreciation allowed in respect of the transmission asset is as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block (A)	3548.57	3620.06	3640.90	3698.57	3698.57
Projected ACE (B)	71.49	20.84	57.67	0.00	0.00
Closing Gross Block (C) = A+B	3620.06	3640.90	3698.57	3698.57	3698.57
Average Gross Block (D) = (A+C)/2	3584.31	3630.48	3669.73	3698.57	3698.57
Weighted average rate of Depreciation (WAROD) (%)	5.28	5.28	5.28	5.28	5.28

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Balance useful life of the asset at the beginning of the year (Year)	35	34	33	32	31
Lapsed life of the asset at the beginning of the year (Year)	0	1	2	3	4
Depreciable Value	3225.88	3267.43	3302.76	3328.71	3328.71
Depreciation during the year	189.25	191.69	193.76	195.28	195.28
Cumulative Depreciation	222.28	413.97	607.73	803.01	998.29
Remaining Depreciable Value	3003.60	2853.46	2695.03	2525.70	2330.42

Interest on Loan ("IoL")

- 58. 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."
- 59. 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 transmission asset is as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	2484.00	2534.04	2548.63	2589.00	2589.00
Cumulative Repayments up to Previous Year	33.03	222.28	413.97	607.73	803.01
Net Loan-Opening	2450.97	2311.76	2134.66	1981.27	1785.99
Additions	50.04	14.59	40.37	0.00	0.00
Repayment during the year	189.25	191.69	193.76	195.28	195.28
Net Loan-Closing	2311.76	2134.66	1981.27	1785.99	1590.71
Average Loan	2381.37	2223.21	2057.96	1883.63	1688.35
Weighted Average Rate of Interest on Loan (in %)	8.4208	8.3841	8.4372	8.5071	8.4857
Interest on Loan	200.53	186.40	173.63	160.24	143.27

Return on Equity ("RoE")

- 60. 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:

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

Where "t" is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the

income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

Illustration-

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

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."
- 61. 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 transmission asset is as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24	
Opening Equity (A)	1064.57	1086.02	1092.27	1109.57	1109.57	
Additions (B)	21.45	6.25	17.30	0.00	0.00	
Closing Equity (C) = A+B	1086.02	1092.27	1109.57	1109.57	1109.57	
Average Equity (D) = (A+C)/2	1075.29	1089.14	1100.92	1109.57	1109.57	
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	

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity	201.96	204.56	206.77	208.40	208.40

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

62. O&M Expenses claimed by the Petitioner in respect of transmission asset for 2019-24 period are as follows:

(₹ in lakh)

Particulars					
Faiticulais	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV transmission line for reconfiguration of Biharsharif Circuit III & Circuit IV from present location to the Stage II side of Kahalgaon Switchyard of NTPC (km)	13.152	13.152	13.152	13.152	13.152
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
Total O&M Expenses claimed (₹ in lakh)	11.59	11.99	12.42	12.85	13.30

63. 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:

maintenance expenses snail be dai								
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 l	VIVA)							
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 Laki	n 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			

Particulars	2019- 20	2020- 21	2021- 22	2022- 23	2023- 24
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (Rs. Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- (i) the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed prorata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;
- (ii) the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- (iii) the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (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."
- 64. 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:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
D/C Bundled (Twin/Triple Sub- Conductor) (km)	13.152	13.152	13.152	13.152	13.152
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
Total O&M Expenses allowed (₹ in lakh)	11.59	11.99	12.42	12.85	13.30

Interest on Working Capital ("IWC")

65. 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:

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- (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

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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;"

- 66. 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%.
- 67. 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	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.97	1.00	1.03	1.07	1.11
Working Capital for Maintenance Spares (15% of O&M Expenses)	1.74	1.80	1.86	1.93	1.99

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	75.34	74.38	73.30	72.08	69.82
Total Working Capital	78.04	77.18	76.20	75.08	72.93
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	9.40	8.68	8.00	7.88	7.66

Annual Fixed Charges for 2019-24 Tariff Period

68. The transmission charges allowed in respect of the transmissions asset for 2019-24 tariff period are as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	189.25	191.69	193.76	195.28	195.28
Interest on Loan	200.53	186.40	173.63	160.24	143.27
Return on Equity	201.96	204.56	206.77	208.40	208.40
O&M Expenses	11.59	11.99	12.42	12.85	13.30
Interest on Working Capital	9.40	8.68	8.00	7.88	7.66
Total	612.73	603.32	594.58	584.65	567.91

Filing Fees and Publication Expenses

69. 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

70. 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.

Security Expenses

71. The Petitioner has submitted that security expenses for the transmission asset

are not claimed in the instant petition and it would file a separate petition for claiming

the overall security expenses and the consequential IWC.

72. 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. 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.

Goods and Services Tax

73. 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.

74. 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.

Capital Spares

75. 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

With effect from 1.7.2011, sharing of transmission charges for inter-State 76.

transmission systems was governed by the provisions of the 2010 Sharing Regulations.

However, with effect from 1.11.2020, sharing of transmission charges is governed by

the Central Electricity Regulatory Commission (Sharing of Transmission Charges and

Losses) Regulations, 2020 (in short "the 2020 Sharing Regulations"). The COD of the

transmission asset is approved as 26.1.2019. Therefore, the transmission charges from

26.1.2019 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 respective

Sharing Regulations and shall be recovered from the concerned DICs through bill under

Regulation 15(2)(b) of the 2020 Sharing Regulations.

77. To summarise:

a. The trued-up AFC allowed in respect of the transmission asset for 2014-

19 period are as follows:

(₹ in lakh) 2018-19 (pro-rata 65 days)

111.08

b. AFC allowed for 2019-24 tariff period in the instant order is as follows:

				(₹ in lakh)
2019-20	2020-21	2021-22	2022-23	2023-24
612.73	603.32	594.58	584.65	567.91

- 78. Annexure-I and Annexure-II to this order form part of the order.
- 79. This order disposes of Petition No. 92/TT/2022 in terms of the above findings and discussions.

sd/(P. K. Singh) (Arun Goyal) (I. S. Jha)
Member Member Member

Annexure-I

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 31.3.201 9 (₹ in lakh)	Rate of Depn.	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
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	3476.55	0.00	0.00	0.00	0.00	72.02	72.02	3548.5 7	5.28%	0.00	0.00	0.00	0.00	185.46
Sub Station	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
PLCC	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
IT Equipment (Incl. Software)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00
Total	3476.55	0.00	0.00	0.00	0.00	72.02	72.02	3548.5 7		0.00	0.00	0.00	0.00	185.46
				<u>I</u>		<u>I</u>	Average Gr	oss Block (tin lakh)	0.00	0.00	0.00	0.00	3512.56
							Weighte	d Average Reciation (in	ate of	•	-	-	-	5.28%



Annexure-II

2019-24	Admitted Capital	Projected ACE (₹ in lakh)						pital (₹ in lakh) Capital Cost De		Rate of Depreciatio	A	Annual Depreciation as per Regulations (₹ in lakh)				
Capital Expenditure	Cost as on 1.4.2019 (₹ in lakh)	2019-20	2020-21	2021-22	2022-23	2023-24	Total	as on 31.3.2024 (₹ in lakh)	n as per Regulation s	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		
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	3548.57	71.49	20.84	57.67	0.00	0.00	150.00	3698.57	5.28%	189.25	191.69	193.76	195.28	195.28		
Sub Station	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		
PLCC	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		
IT Equipment (Incl. Software)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00		
Total	3548.57	71.49	20.84	57.67	0.00	0.00	150.00	3698.57	Total	189.25	191.69	193.76	195.28	195.28		
						Average G (₹ in	ross Block lakh)	3584.31	3630.48	3669.73	3698.57	3698.57				
						Weighted A of Deprecia	verage Rate ation (in %)	5.28%	5.28%	5.28%	5.28%	5.28%				