

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 458/TT/2020

Coram:

**Shri P. K. Pujari, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal
Shri Pravas Kumar Singh, Member**

Date of Order : 08.06.2021

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and determination as well as truing up of transmission tariff from COD to 31.3.2019 for 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 400/220 kV, 500 MVA ICT-III alongwith 400 kV AIS bay and 220 kV GIS bay at Gaya Sub-station under Eastern Region Strengthening Scheme XVII- Part- B in Eastern Region.

And in the matter of:

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

.....Petitioner

Vs.

1. Bihar State Power (Holding) Company Ltd.,
(Formerly Bihar State Electricity Board -BSEB),
Vidyut Bhavan, Bailey Road, Patna - 800 001.
2. West Bengal State Electricity Distribution Company Ltd.,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Calcutta - 700 091.
3. Grid Corporation of Orissa Ltd.,
Shahid Nagar, Bhubaneswar - 751007



4. Damodar Valley Corporation,
DVC Tower, Maniktala,
Civic Centre, VIP Road, Calcutta - 700 054.
5. Power Department,
Govt. of Sikkim, Gangtok - 737 101.
6. Jharkhand State Electricity Board,
In Front of Main Secretariat,
Doranda, Ranchi – 834002.

...Respondent(s)

For Petitioner: Shri S. S. Raju, PGCIL
Shri A. K. Verma, PGCIL
Shri V. P. Rastogi, PGCIL
Shri B. Dash, PGCIL

For Respondent: Shri Navin Prakash, Advocate, BSPHCL

ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd., a deemed transmission licensee, for determination of final tariff as well as true up of transmission tariff from COD to 31.3.2019 for 2014-19 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 tariff of 2019-24 tariff 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 400/220 kV, 500 MVA ICT-III alongwith 400 kV AIS bay and 220 kV GIS bay at Gaya Sub-station (hereinafter referred to as the “transmission asset”) under “Eastern Region Strengthening Scheme XVII- Part- B” in Eastern Region (in short, “the transmission project”).

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



“1)Approve the Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 7 and 8 above.

2) Allow tariff as 90% of the Annual Fixed Charges in accordance with clause 7 (i) of Regulation 7 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the PoC charges.

3)Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred / projected to be incurred.

4)Tariff may be allowed on the estimated completion cost, since few elements of the project are yet to be completed, the completion cost for the assets covered under instant Petition are within the overall project cost.

5)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 under clause 25 of the Tariff regulations 2014 and Tariff regulations 2019.

6)Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2014-19 and 2019-24 period, if any, from the respondents.

7)Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 8.7 above.

8)Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and 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.

9)Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure (if any) in relation to the filing of petition.

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

11)Allow the petitioner to bill and recover Licensee fee and RLDC fees and Charges, separately from the respondents in terms of Regulation 52 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

12) Allow the petitioner to bill and recover GST on Transmission charges separately from the respondents, if GST on Transmission of electricity is withdrawn from the exempted (negative) list at any time in future. Further any



taxes and duties including cess, etc. imposed by any Statutory/Govt./Municipal Authorities shall be allowed to be recovered from the beneficiaries.”

Background

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

a) The Investment Approval (IA) for the transmission project was accorded by the Board of Directors of the Petitioner *vide* C/CP/PA 1617-02-0R-IA016 dated 9.2.2017 at an estimated cost of ₹23553 lakh including IDC of ₹1459 lakh based on October, 2016 price level.

b) The scope of work covered under the transmission is as follows:

I. Augmentation of transformation capacity at Powergrid Sub-stations:

- i. Installation of 400/220 kV, 1X500 MVA ICT at Gaya Sub-station (400 kV bay in AIS and 220 kV bay in GIS);
- ii. Replacement of 400/220 kV, 2X315 MVA ICTs at Malda Sub-station with 400/220 kV, 2X500 MVA ICTs;
- iii. Installation of 3rd 400/220 kV, 1X315 MVA ICT at New Siliguri Sub-station: to be sourced from pool of spare ICTs (400 kV bay in GIS and 220 kV bay in AIS);
- iv. Installation of 3rd 400/220 kV, 1X315 MVA ICT at Durgapur Sub-station alongwith associated bays: to be sourced from pool of spare ICTs;
- v. Installation of 400/220 kV, 2X315 MVA ICT at Jeypore Sub-station (one each in parallel to the existing ICTs): to be sourced from pool of spare ICTs, and
- vi. Installation of 400/220 kV, 2X315 MVA ICT at Rourkela Sub-station (one each in parallel to the existing ICTs): to be sourced from pool of spare ICTs.

II. Re-conductoring of Maithon RB – Maithon 400 kV D/C line along with modifications/additions in bay equipment at both ends of the line viz.



Maithon 400/220 kV sub-station of POWERGRID and generation switchyard at Maithon RB.

III. By-pass arrangement of LILO of 400 kV lines at Angul.

c) Instant petition is the first petition in respect of the transmission project. The transmission asset has been declared under commercial operation on 9.2.2019 and is covered in the present petition.

d) For the balance scope of work under the transmission project including Installation of 315 MAV ICTs at New Siliguri Sub-station, Durgapur Sub-station, Jeypore Sub-station and Rourkela Sub-station; Replacement of ICT at Malda Sub-station, Reconductoring of Maithon (RB) – Maithon (PG) line; and By-passing arrangement of LILO of 400 kV lines at Angul Sub-station, separate petition will be filed by the Petitioner subsequently as has been submitted by the Petitioner vide affidavit dated 23.11.2020.

4. The Petitioner has sought determination of final tariff as well true up of transmission tariff of 2014-19 period in the instant petition for the reason that the transmission asset has been declared under commercial operation in the last quarter of 2014-19 tariff period. The Petitioner has also sought transmission tariff of 2019-24 tariff period as per the 2019 Tariff Regulations in the instant petition.

5. We have considered the submissions of the Petitioner. We observe that the Petitioner has claimed COD of the transmission asset as 9.2.2019 and tariff is claimed for 51 days only for 2014-19 tariff period. Keeping in mind the situation due to Covid-19 pandemic and in order to save time, energy and resources, we are agreeable to consider request of the Petitioner for determination of the final tariff as well as true up of transmission tariff from COD to 31.3.2019 and determination of tariff for 2019-24 period as per 2014 Tariff Regulations and 2019 Tariff Regulations respectively in the instant petition.



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

7. The Petitioner has served the petition on Respondents and notice regarding filing of this petition has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003. A general notice dated 8.6.2020 has also been uploaded on the Commission's website. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspaper by the Petitioner.

8. This order is issued considering the submissions made in the petition dated 28.10.2020 and the Petitioner's affidavit dated 23.11.2020.

9. The hearing in this matter was held on 6.4.2021 through video conference and order was reserved. In the course of hearing the matter, learned counsel for BSPHCL raised issues related to Return on Equity (RoE), Interest on Loan (IoL), GST, filing fee, publication expenses and recovery of statutory charges.

10. Having heard the representatives of the Petitioner, learned counsel for Respondent, BSPHCL and perused the material on record, we proceed to dispose of the petition.

Truing up of Annual Fixed Charges of the 2014-19 Period

11. The details of the final as well as trued-up transmission tariff from COD to 31.3.2019 claimed by the Petitioner in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata 51 days)
Depreciation	20.70
Interest on Loan	22.83
Return on Equity	23.23



Interest on Working Capital	2.20
O&M Expenses	16.32
Total	85.28

12. The details of final and trued-up Interest on Working Capital (IWC) claimed by the Petitioner for the transmission asset is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata 51 days)
O&M Expenses	9.73
Maintenance Spares	17.52
Receivables	101.72
Total Working Capital	128.97
Rate of Interest (%)	12.20
Interest on Working Capital	2.20

Date of Commercial Operation (COD)

13. The Petitioner has claimed that the actual date of commercial operation of the transmission asset is 9.2.2019.

14. In support of COD of the transmission asset, the Petitioner has submitted CEA Energisation Certificate dated 3.1.2019 under Regulation 43 of CEA (Measures Relating to Safety and Electric Supply) Regulations, 2010, self-declaration of COD letter dated 18.3.2019 and CMD certificate as required under Grid Code.

15. Taking into consideration CEA and CMD Certificates, COD letter and submissions of the Petitioner, we approve the COD of the transmission asset as 9.2.2019.

Capital Cost

16. The Petitioner has claimed the following capital cost incurred as on COD and additional capital expenditure (ACE) in respect of the transmission asset and submitted Auditor's Certificate in support of the same:



(₹ in lakh)

Approved FR Cost	Expenditure up to COD	ACE from COD to 31.3.2019	Proposed ACE			Estimated completion Capital Cost
			2019-20	2020-21	2021-22	
3864.60	2540.08	541.23	217.59	130.55	87.03	3516.48

Cost Over-run

17. The Petitioner has submitted that item-wise cost variation of approved cost (FR) and actual cost as on COD have been shown in Form-5. There is increase/ decrease in award cost received in competitive bidding as compared to initial estimates (FR cost). For procurement, open competitive bidding route was followed by providing equal opportunity to all eligible firms. The Petitioner has further submitted that lowest possible market prices for required products/ services were obtained and contracts were awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. The Petitioner has submitted that cost variation was mainly due to actual site conditions, awarded rate and other associated factors which were beyond the control of the Petitioner. The Petitioner has further submitted that against the total apportioned approved cost of ₹3864.60 lakh, the estimated completion cost is ₹3516.48 lakh which is within the approved cost as per FR and therefore there is no cost over-run. The Petitioner has prayed that tariff may be allowed on the estimated completion cost.

18. We have considered the submissions of the Petitioner. We observe that the estimated completion cost in respect of the transmission asset is within the approved cost as per FR and as such there is no cost over-run.



Time over-run

19. As per IA, the transmission asset was scheduled to be executed within 28 months from the date of IA. Accordingly, scheduled commercial operation date of the transmission asset was 8.6.2019 against which it was put into commercial operation on 9.2.2019. Thus, there is no time over-run.

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

20. The Petitioner has claimed IDC of the transmission asset and has submitted the statement showing IDC claim, discharge of IDC liability as on date of commercial operation and thereafter as follows:

(₹ in lakh)			
IDC as per Auditor's Certificate	IDC Discharged up to COD	IDC discharged during 2018-19	IDC discharged during 2019-20
58.05	51.43	2.14	4.48

21. The Petitioner has submitted IDC computation statement which consists of the name of the loan, drawl date, loan amount, interest rate and interest claimed. IDC is worked out based on the details given in the IDC statement. The loan amount for calculating IDC has been considered as per Form 9C. IDC claimed and considered as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination is as follows:

(₹ in lakh)				
IDC claimed as per Auditor's certificate	IDC allowed as on COD	IDC discharged up to COD	IDC discharged during 2018-19	IDC discharged during 2019-20
58.05	58.05	51.43	2.14	4.48

22. The Petitioner has claimed IEDC in respect of the transmission asset as per the Auditor's Certificate. The entire IEDC mentioned in the Auditor's Certificate was paid



up to the COD. IEDC claimed as per Auditor's Certificate, IEDC considered and discharged up to COD is as follows:

(₹ in lakh)		
IEDC claimed as per Auditor's Certificate	IEDC considered as on COD	IEDC discharged up to COD
89.78	89.78	89.78

23. The IEDC claimed, trued up and considered as on COD for the purpose of tariff determination is as follows:

(₹ in lakh)	
IEDC as per Auditor Certificate	IEDC allowed
89.78	89.78

Initial Spares

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

*“(d) Transmission System
 Transmission line: 1.00%
 Transmission sub-station (Green Field): 4.00%
 Transmission sub-station (Brown Field): 6.00%
 Gas Insulated sub-station :5.00%
 Communication System: 3.5%”*

25. The Initial Spares claimed by the Petitioner are as follows:

(₹ in lakh)			
Particulars	Total Plant & Machinery Cost (Excluding IDC, IEDC, Land Cost & Cost of civil works)	Ceiling as per 2014 Tariff Regulations	Initial Spares claimed
Sub-station	3067.36	6.00%	184.04

26. We have considered the submissions of the Petitioner. Initial Spares claimed by the Petitioner is within the ceiling of 6%. Accordingly, Initial Spares allowed and trued-



up in respect of the transmission asset as per percentage specified in the 2014 Tariff Regulations is as follows:

Particulars	Plant and Machinery cost (excluding IDC/IEDC, Land cost & Cost of Civil Works) (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2014 Tariff Regulations (%)	Initial Spares allowable (₹ in lakh)	Initial Spares disallowed (₹ in lakh)	Initial Spares Allowed (₹ in lakh)
	A	B	C	$D = \frac{(A-B) * C}{(100-C)}$	B-D	
Sub-station	3067.36	184.04	6.00	184.04	-	184.04

Capital Cost

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

(₹ in lakh)		
Capital Cost claimed as per Auditor's Certificate (A)	Un-discharged IDC (B)	Capital Cost allowed as on COD (C) = (A-B)
2540.08	6.62	2533.46

Additional Capital Expenditure (ACE)

28. As per Regulation 3(13) of the 2014 Tariff Regulations, the cut-off date in respect of the transmission asset is 31.3.2022. The Petitioner has claimed ACE of ₹543.37 lakh including un-discharged IDC of ₹2.14 lakh during the year 2018-19 under Regulation 14(1)(i) of 2014 Tariff Regulations.

29. The Petitioner *vide* affidavit dated 23.11.2020 has submitted the following details with respect to payments to contractors:



(₹ in lakh)

Particulars	2018-19
Techno Electric and Engineering Company Limited	541.23
Total	541.23

30. We have considered the submissions of the Petitioner. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations as it pertains to balance and retention payments for works already executed and in respect of unexecuted work within the cut-off date. Accordingly, the capital cost considered in respect of the transmission asset for 2014-19 tariff period is as follows:

(₹ in lakh)

Capital Cost as on COD	2018-19 (Including Un-discharged IDC)	Capital Cost as on 31.3.2019
2533.46	543.37	3076.83

Debt-Equity ratio

31. The Petitioner has claimed debt-equity ratio of 70:30 as on COD. Debt-equity ratio of 70:30 is considered as provided under Regulation 19 of the 2014 Tariff Regulations. The details of the debt-equity as on COD and as on 31.3.2019 in respect of the transmission asset considered for the purpose of tariff determination for 2014-19 period is as follows:

Particulars	Capital Cost as on COD (₹ in lakh)	(%)	Capital Cost as on 31.3.2019 (₹ in lakh)	(%)
Debt	1773.42	70.00	2153.78	70.00
Equity	760.04	30.00	923.05	30.00
Total	2533.46	100.00	3076.83	100.00

Depreciation

32. The calculation of Weighted Average Rate of Depreciation (WAROD) is placed in Annexure-I. The Gross Block during 2014-19 tariff period has been depreciated at WAROD. WAROD has been worked out after taking into account the depreciation



rates of assets as prescribed in the 2014 Tariff Regulations and depreciation allowed during the 2014-19 tariff period is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro- rata) (51 days)
Depreciation	
Opening Gross Block	2533.46
ACE	543.37
Closing Gross Block	3076.83
Average Gross Block	2805.15
Weighted Average Rate of Depreciation (WAROD) (%)	5.28
Balance useful life of the asset at the beginning of the year (Year)	25
Lapsed Life of the asset at the beginning of the year (Year)	0
Depreciable Value	2524.63
Depreciation during the year	20.70
Cumulative Depreciation at the end of the year	20.70
Remaining Depreciable Value at the end of the year	2503.94

Interest on Loan (IoL)

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

34. Learned counsel for BSPHCL has objected to floating rate of interest and submitted that only weighted average rate of interest is permissible under the 2014 Tariff Regulations.

35. We have considered the above submissions of the Petitioner and BSPHCL. IoL has been calculated based on actual interest rate as submitted by the Petitioner in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of IOL allowed and trued up is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro- rata 51 days)
Interest on Loan	
Gross Normative Loan	1773.42



Cumulative Repayments up to Previous Year	0.00
Net Loan-Opening	1773.42
Additions due to ACE	380.36
Repayment during the year	20.70
Net Loan-Closing	2133.09
Average Loan	1953.25
Weighted Average Rate of Interest on Loan (%)	8.3657
Interest on Loan	22.83

Return on Equity (RoE)

36. 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 it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for the 2014-19 tariff period:

Year	Claimed effective tax rate (in %)	Grossed up RoE [Base Rate/(1-t)] (in %)
2014-15	20.960	19.610
2015-16	21.340	19.705
2016-17	21.340	19.705
2017-18	21.340	19.705
2018-19	21.550	19.758

37. Learned counsel for BSPHCL orally submitted that grossing up of RoE is required to be based on actual tax rate, whereas the Petitioner has grossed up RoE based on effective tax rate for the year 2018-19. Further, there is no provision for claiming RoE directly from the beneficiaries under Regulation 25(3) of 2014 Tariff Regulations.

38. We have considered the above submissions of the Petitioner and BSPHCL. The Commission in 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 %) (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

39. The MAT rates considered in order dated 27.4.2020 in Petition No. 274/TT/2019 for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations 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

40. The Petitioner has claimed RoE for 2014-19 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. Accordingly, RoE allowed for the transmission asset is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro- rata) (51 days)
Return on Equity	
Opening Equity	760.04
Additions due to ACE	163.01
Closing Equity	923.05
Average Equity	841.54
Return on Equity (Base Rate) (%)	15.500
MAT Rate for respective year (%)	21.549
Rate of Return on Equity (%)	19.758
Return on Equity	23.23



Operation & Maintenance Expenses (O&M Expenses)

41. 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) (51 days)
400 kV AIS Bay at Gaya Sub-station (Number)	One
220 kV GIS Bay at Gaya Sub-station (Number)	One
Total O&M Expenses Claimed	16.32

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

Element	Norms for 2018-19
400 kV Bay	₹68.71 lakh/ bay
220 kV Bay	₹48.10 lakh/ bay

43. We have considered the submissions of the Petitioner. As per the 2014 Tariff Regulations, no separate norms for 220 kV GIS bays is given. Therefore, we have considered norms of 220 kV AIS bays for the purpose of O&M Expenses. O&M Expenses allowed in respect of the transmission asset as per norms specified in the 2014 Tariff Regulations are as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro- rata) (51 days)
400 kV AIS Bay at Gaya Sub-station (Number)	One
Norms (₹ lakh/ bay)	68.71
220 kV Bay at Gaya Sub-station (Number)	One
Norms (₹ lakh/ bay)	48.10
Total O&M Expenses allowed	16.32

Interest on Working Capital (IWC)

44. IWC has been worked out as per the methodology provided in the Regulation 28 of the 2014 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed as follows:



i. Maintenance spares:

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses specified in Regulation 28 of the 2014 Tariff Regulations.

ii. O & M Expenses:

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

iii. Receivables:

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

iv. Rate of interest on working capital:

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

45. IWC allowed and trued up in respect of the transmission asset is as under:

(₹ in lakh)

Particulars	2018-19 (Pro- rata) (51 days)
Interest on Working Capital	
O&M Expenses (O&M Expenses for 1 month)	9.73
Maintenance Spares (15% of O&M Expenses)	17.52
Receivables (Equivalent to 2 months of annual fixed cost)	101.72
Total Working Capital	128.98
Rate of Interest (%)	12.20
Interest on Working Capital	2.20

Approved Annual Fixed Charges for the 2014-19 Tariff Period

46. The annual fixed charges allowed and trued up in respect of the transmission asset for 2014-19 period are as follows:

(₹ in lakh)

Particulars	2018-19 (Pro- rata) (51 days)
Depreciation	20.70
Interest on Loan	22.83
Return on Equity	23.23
Interest on Working Capital	2.20



Particulars	2018-19 (Pro- rata) (51 days)
O&M Expenses	16.32
Total	85.28

Determination of Annual Fixed Charges for 2019-24 Tariff Period

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	170.51	179.93	185.67	187.97	187.97
Interest on Loan	177.86	173.52	164.60	151.50	135.76
Return on Equity	179.62	189.56	195.69	198.14	198.14
Interest on Working Capital	17.83	18.44	18.85	19.11	19.20
O&M Expenses	226.91	235.09	243.33	252.13	260.50
Total	772.73	796.54	808.14	808.85	801.57

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	18.91	19.59	20.28	21.01	21.71
Maintenance Spares	34.04	35.26	36.50	37.82	39.08
Receivables	95.01	98.20	99.63	99.72	98.55
Total Working Capital	147.96	153.05	156.41	158.55	159.34
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	17.83	18.44	18.85	19.11	19.20

Capital Cost

49. 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."*

50. Capital cost of ₹3076.83 lakh as on 31.3.2019 has been claimed by Petitioner in respect of the transmission asset which has been approved by the Commission and is considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital Expenditure (ACE)

51. Regulation 24 of the 2019 Tariff Regulations provides 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.”

52. The Petitioner has claimed ACE of ₹439.65 lakh during the 2019-24 tariff period in respect of the transmission asset under Regulation 24(1) of the 2019 Tariff Regulations. The Petitioner has claimed the following capital cost as on 31.3.2024:

Capital Cost as on 31.3.2019	Projected ACE 2019-24			Capital Cost as on 31.3.2024
	2019-20 (Including Un-discharged IDC)	2020-21	2021-22	
3076.83	222.07	130.55	87.03	3516.48

53. The Petitioner vide affidavit dated 23.11.2020 has submitted the following details with respect to payments to contractors:

Particulars	2019-20	2020-21	2021-22
Techno Electric and Engg Co Ltd	217.59	130.55	87.03
Total	217.59	130.55	87.03

54. We have considered the submissions of the Petitioner. ACE claimed by the Petitioner has been allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations on account of balance and retention payments for the works already executed and



also the unexecuted work within the cut-off date. Accordingly, the capital cost considered in respect of the transmission asset for 2019-24 tariff period is as follows:

Capital Cost approved as on 31.3.2019	ACE 2019-24			Capital Cost considered as on 31.3.2024
	2019-20 (Including Un-discharged IDC)	2020-21	2021-22	
3076.83	222.07	130.55	87.03	3516.48

(₹ in lakh)

Debt-Equity ratio

55. 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.”

56. The debt-equity 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)	%	Capital Cost as on 31.3.2024 (₹ in lakh)	%
Debt	2153.78	70.00	2461.54	70.00
Equity	923.05	30.00	1054.94	30.00
Total	3076.83	100.00	3516.48	100.00

Depreciation

57. 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.”

58. IT equipment has been considered as part of the Gross Block and depreciated using Weighted Average Rate of Depreciation (WAROD). The WAROD has been worked out and is given in Annexure-II after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as



100 per cent depreciable. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed in respect of the transmission asset for 2019-24 tariff period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	3076.83	3298.90	3429.45	3516.48	3516.48
Projected ACE	222.07	130.55	87.03	0.00	0.00
Closing Gross Block	3298.90	3429.45	3516.48	3516.48	3516.48
Average Gross Block	3187.87	3364.18	3472.97	3516.48	3516.48
Weighted Average Rate of Depreciation (WAROD) (%)	5.35	5.35	5.35	5.35	5.35
Balance useful life at the beginning of the year (Year)	25	24	23	22	21
Lapsed Life of the asset at the beginning of the year (Year)	0	1	2	3	4
Depreciable Value	2871.33	3030.13	3128.04	3167.20	3167.20
Depreciation during the year	170.51	179.93	185.67	187.97	187.97
Cumulative Depreciation at the end of the year	191.21	371.14	556.81	744.78	932.76
Remaining Depreciable Value at the end of the year	2680.13	2658.99	2571.23	2422.42	2234.45

Interest on Loan (IoL)

59. 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.

(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.”

60. The Weighted Average Rate of IoL (WAROI) has been considered on the basis of rate 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 the 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true-up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	2153.78	2309.23	2400.62	2461.54	2461.54
Cumulative Repayments up to Previous Year	20.70	191.21	371.14	556.81	744.78
Net Loan-Opening	2133.09	2118.02	2029.48	1904.73	1716.75
Additions due to ACE	155.45	91.39	60.92	0.00	0.00
Repayment during the year	170.51	179.93	185.67	187.97	187.97
Net Loan-Closing	2118.02	2029.48	1904.73	1716.75	1528.78
Average Loan	2125.56	2073.75	1967.10	1810.74	1622.77
Weighted Average Rate of Interest on Loan (%)	8.3671	8.3671	8.3671	8.3665	8.3655
Interest on Loan	177.85	173.51	164.59	151.50	135.75



Return on Equity (RoE)

61. 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 shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system

Provided further that:

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

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

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



business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

Where “t” is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.

Illustration-

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

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

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

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

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

62. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, the MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance with



Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the transmission asset has been worked out and allowed as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	923.05	989.67	1028.84	1054.94	1054.94
Additions due to ACE	66.62	39.17	26.11	0.00	0.00
Closing Equity	989.67	1028.84	1054.94	1054.94	1054.94
Average Equity	956.36	1009.25	1041.89	1054.94	1054.94
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Return on Equity	179.62	189.56	195.69	198.14	198.14

Operation & Maintenance Expenses (O&M Expenses)

63. The O&M Expenses claimed by the Petitioner for the transmission asset for the 2019-24 period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1 Number of 400 kV AIS bay	32.15	33.28	34.45	35.66	36.91
1 Number of 220 kV GIS bay	15.76	16.31	16.88	17.47	18.09
1 Number 400 kV Sub-station ICT (500 MVA ICT-II)	179.00	185.50	192.00	199.00	205.50
Total O&M expenses	226.91	235.09	243.33	252.13	260.50

64. Regulation 35(3)(a) and Regulation 33(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
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
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



<i>Norms for Transformers (₹ Lakh per MVA)</i>					
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
<i>Norms for AC and HVDC lines (₹ Lakh per km)</i>					
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
<i>Norms for HVDC stations</i>					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ 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 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 (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
- iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;*
- v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and*
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.*

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

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

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

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

65. The O&M Expenses allowed in respect of the transmission asset covered in the instant petition are as follows:



(₹ in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses					
1 Number of 400 kV bays					
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Total	32.15	33.28	34.45	35.66	36.91
1 Number of 220 kV bays					
Norms (₹ lakh/Bay)	15.757	16.310	16.884	17.472	18.088
Total	15.757	16.310	16.884	17.472	18.088
1 Number 500 MVA 400 kV Sub-station ICT					
Norms (₹ lakh/MVA)	0.358	0.371	0.384	0.398	0.411
Total	179.00	185.50	192.00	199.00	205.50
Total O&M expense allowed (₹ in lakh)	226.91	235.09	243.33	252.13	260.50

Interest on Working Capital (IWC)

66. 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:*

(a) 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.*

(2) *The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:*

Provided that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

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



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

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

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

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

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

68. 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, whereas, ROI for 2020-21 onwards has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points). The components of the working capital and interest thereon allowed are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses (O&M Expenses for 1 month)	18.91	19.59	20.28	21.01	21.71
Maintenance Spares. (15% of O&M Expenses)	34.04	35.26	36.50	37.82	39.07
Receivables (Receivables equivalent to 45 days of annual fixed cost)	95.01	98.05	99.48	99.56	98.39
Total Working Capital	147.95	152.90	156.25	158.39	159.18
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest on Working Capital	17.83	17.20	17.58	17.82	17.91



Annual Fixed Charges for 2019-24 Tariff Period

69. The transmission charges allowed in respect of the transmission asset for 2019-24 tariff period is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	170.51	179.93	185.67	187.97	187.97
Interest on Loan	177.85	173.51	164.59	151.50	135.75
Return on Equity	179.62	189.56	195.69	198.14	198.14
Interest on Working Capital	17.83	17.20	17.58	17.82	17.91
O & M Expenses	226.91	235.09	243.33	252.13	260.50
Total	772.72	795.29	806.86	807.56	800.27

Filing Fee and the Publication Expenses

70. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The learned counsel for BSPHCL orally submitted that Commission should not allow publication expenses and statutory charges in favour of the Petitioner.

71. We have considered the submissions of the Petitioner and BSPHCL. The Petitioner is entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Licence Fee & RLDC Fees and Charges

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



Security Expenses

73. The Petitioner has submitted that security expenses for 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. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 shall be filed on a yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that difference, if any, between the estimated security expenses and actual security expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

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

Goods and Services Tax

75. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged



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

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

Sharing of Transmission Charges

77. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, or the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, as applicable, as provided in Regulation 43 of 2014 Tariff Regulations for 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.

78. To summarise:

- a) The trued-up Annual Fixed Charges allowed in respect of the transmission asset for 2014-19 period are:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata 51 days)
Annual Fixed Charges	85.28

- b) The Annual Fixed Charges allowed in respect of the transmission asset for 2019-24 tariff period are:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fixed Charges	772.72	795.29	806.86	807.56	800.27

79. Annexure-1 and Annexure-2 enclosed hereinafter form part of the instant order.

80. This order disposes of Petition No. 458/TT/2020 in terms of the above discussions and findings.

sd/-
(Pravas Kumar Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson



Annexure-I

2014-19	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	Claimed Additional Capitilisation	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)
Capital Expenditure		Total Claimed			2018-19
Land - Freehold	0.00	-	0.00	-	-
Land - Leasehold	0.00	-	0.00	3.34%	-
Building Civil Works & Colony	-	-	-	3.34%	-
Transmission Line	0.00	-	0.00	5.28%	-
Sub Station	2512.08	543.35	3055.43	5.28%	146.98
PLCC	0.00	-	0.00	6.33%	-
IT Equipment (Incl. Software)	21.38	0.02	21.40	5.28%	1.13
Total	2533.46	543.37	3076.83		148.11
Average Gross Block (₹ in lakh)					2805.15
Weighted Average Rate of Depreciation					5.28%



2019-24	Admitted Capital	Projected ACE				Admitted Capital Cost as on 31.3.2024	Rate of	Annual Depreciation as per Regulations				
	Cost as on 1.4.2019	₹ in lakh				₹ in lakh	Depreciation as per Regulations	₹ in lakh				
Capital Expenditure	₹ in lakh	2019-20	2020-21	2021-22	Total			2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	-	-	-	-	-	-	-	-	-	-	-	-
Land - Leasehold	-	-	-	-	-	-	3.34%	-	-	-	-	-
Building Civil Works & Colony	-	-	-	-	-	-	3.34%	-	-	-	-	-
Transmission Line	-	-	-	-	-	-	5.28%	-	-	-	-	-
Sub Station	3,055.43	219.79	130.55	87.03	437.37	3,492.80	5.28%	167.13	176.38	182.12	184.42	184.42
PLCC	-	-	-	-	-	-	6.33%	-	-	-	-	-
IT Equipment (Incl. Software)	21.40	2.28	-	-	2.28	23.68	15.00%	3.38	3.55	3.55	3.55	3.55
Total	3,076.83	222.07	130.55	87.03	439.65	3,516.48		170.51	179.93	185.67	187.97	187.97
							Average Gross Block (₹ in lakh)	3187.87	3364.18	3472.97	3516.48	3516.48
							Weighted Average Rate of Depreciation	5.35%	5.35%	5.35%	5.35%	5.35%

