

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 504/TT/2019

Coram:

**Shri I.S. Jha, Member
Shri Arun Goyal, Member**

Date of Order: 01.02.2021

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of the 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 of 2 nos. of 400 kV line bays at Muzaffarpur Sub-station for termination of Muzaffarpur (PG)-Darbhanga (TBCB) 400 kV D/C(Triple snowbird) line under "Eastern Region Strengthening Scheme VI Project" in Eastern Region.

And in the matter of:

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

....Petitioner

Vs

1. Bihar State Power (Holding) Company Ltd.
(Formerly Bihar State Electricity Board -BSEB)
Vidyut Bhavan, Bailey Road,
Patna – 800 0018
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 - 751 007
4. Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi – 834002.



5. Damodar Valley Corporation,
DVC Tower, Maniktala,
Civic Centre, VIP Road, Calcutta - 700054.
6. Power Department
Government of Sikkim, Gangtok - 737101.

...Respondents

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

For Respondents : None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (hereinafter referred to as “the Petitioner”), a deemed transmission licensee, for truing up of transmission tariff of the 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 tariff determination of the 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 2 Nos. of 400 kV line bays at Muzaffarpur Sub-station for termination of Muzaffarpur (PG)-Darbhanga (TBCB) 400 kV D/C (Triple snowbird) transmission line (hereinafter referred to as “the transmission asset”) under “Eastern Region Strengthening Scheme VI Project” in Eastern Region (hereinafter referred to as “the transmission project”).

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

- “1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 10.2 and 11.0 above.
- 2) Approve the Completion cost and additional capitalization incurred during 2014-19.



- 3) *Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 10.2 and 11.0 above for respective block.*
- 4) *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.*
- 5) *Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 6) *Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.*
- 7) *Allow the petitioner to claim initial spares.*
- 8) *Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 11.6 above.*
- 9) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 10) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

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

Background

3. The Investment Approval (IA) for implementation of the transmission project was accorded by the Board of Directors of the Petitioner vide Memorandum No. C/CP/ERSS-VI dated 23.3.2015 at an estimated cost of ₹1250 lakh including IDC of ₹69 lakh based on December 2014 price level. The Petitioner vide Memorandum No.C/CP/PA1617-11-0S-RCE007 dated 30.11.2016 has submitted the Revised Cost



Estimate (RCE) of the project as ₹1656 lakh including IDC of ₹23 lakh based on April, 2016 price level.

4. The scope of work covered under the "Eastern Region Strengthening Scheme VI Project" is as under:-

a. Sub-station:

(1) 2 Nos. of 400 kV line bays at Muzaffarpur Sub-station for termination of Muzaffarpur (PG)-Darbhanga (TBCB) 400 kV D/C (Triple snowbird) transmission line.

Date of Commercial Operation (COD)

5. As per the IA dated 23.3.2015, the transmission project was scheduled to be put into commercial operation within 24 months, i.e. by 22.3.2017.

6. The transmission tariff for the transmission asset from its COD to 31.3.2019 was allowed vide order dated vide 1.9.2017 in Petition No. 209/TT/2016 as per the 2014 Tariff Regulations. The Petitioner, in Petition No. 209/TT/2016, had submitted that the transmission asset was put into commercial operation on 31.8.2016 and prayed for approval of the COD of the transmission asset as 31.8.2016 under the second proviso (ii) to clause (3) of Regulation 4 of the 2014 Tariff Regulations as the transmission asset could not be put to use as the associated Muzaffarpur (PG)-Darbhanga (TBCB) 400 kV D/C (Triple Snowbird) transmission line under the scope of Darbhanga Motihari Transmission Company Limited was not ready. However, the Commission vide order dated 1.9.2017 observed that though the bays were ready, the successful trial operation and charging could not be carried out without the COD of the said associated transmission line. The said associated transmission line was put into commercial operation on 21.4.2017. Therefore, the COD of the transmission



asset was approved as 21.4.2017 and it was held that the IDC and IEDC for the period from 31.8.2016 to 21.4.2017 shall be borne by DMTCL.

7. The Respondents are the transmission and distribution licensees and Electricity Departments, which are procuring transmission services from the Petitioner, and are mainly beneficiaries of the Eastern Region.

8. The Petitioner has served the petition on the Respondents and notice of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. General Notice dated 14.1.2020 was posted on the Commission's website directing the beneficiaries/Respondents to file reply in the matter.

9. This order is issued considering the submissions made by the Petitioner in the petition dated 14.9.2019, Petitioner's affidavits dated 3.3.2020 and 5.5.2020

10. The hearing in this matter was held on 22.7.2020 through video conference and the order was reserved.

11. No reply has been filed by any of the Respondents. Having heard the representatives of the Petitioner and perused the material on record, we proceed to dispose of the petition.

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

12. The Petitioner has submitted the information required under the 2014 Tariff Regulations for truing up of the annual fixed charges (AFC) in respect of the transmission asset allowed from COD to 31.3.2019 and has prayed for truing of the



AFC under Regulation 8 of the 2014 Tariff Regulations. The tariff for the 2014-19 tariff period has been trued up as discussed in the subsequent paragraphs.

13. The details of the trued up transmission charges claimed by the Petitioner are as under:

Particular	₹ in lakh	
	2017-18 (Pro-rata for 345 days)	2018-19
Depreciation	49.62	65.46
Interest on Loan	49.41	60.62
Return on Equity	55.26	73.05
Interest on Working Capital	9.77	11.35
O&M Expenses	125.63	137.42
Total	289.69	347.90

14. The details of the trued-up Interest on Working Capital (IWC) for the transmission asset claimed by the Petitioner are as under:-

Particular	₹ in lakh	
	2017-18 (Pro-rata for 345 days)	2018-19
O&M Expenses	11.09	11.45
Maintenance Spares	19.95	20.61
Receivable	51.12	57.98
Total	82.16	90.04
Rate of Interest	12.60	12.60
Interest on Working Capital	9.77	11.35

Capital Cost

15. The Commission vide order dated 1.9.2017 in Petition No. 209/TT/2016 allowed capital cost of ₹1021.95 lakh as on COD and Additional Capital Expenditure (ACE) of ₹593.85 lakh from COD to 31.3.2019 in respect of the transmission asset.

16. The Petitioner vide Auditor's Certificate dated 18.7.2019 has submitted the capital cost incurred upto COD, ACE from COD to 31.3.2019 and estimated ACE during the period from 1.4.2019 to 31.3.2020. The details of approved apportioned



capital cost, capital cost as on COD and ACE incurred upto 31.3.2019 as claimed by the Petitioner for the transmission asset are as under:

Apportioned approved capital cost as per RCE	Capital cost as on COD	Additional capital Expenditure (ACE)		Total capital cost as on 31.3.2019 (Claimed)
		2017-18	2018-19	
1656.00	869.32	240.84	244.53	1354.69

17. The completion cost including ACE in respect of the transmission asset is within the RCE approved capital cost. Therefore, there is no cost over-run. However, there is cost variation. Therefore, the Petitioner vide order dated 1.9.2017 in Petition No. 209/TT/2016 was directed to submit detailed reasons for the cost over-run in capital cost as on 31.3.2019 with respect to the approved FR cost of ₹1250 lakh during the truing up exercise. The Petitioner vide affidavit dated 14.9.2019 has submitted that the increase in cost with respect to FR cost of ₹1250 lakh was mainly on account of variation in quantities of civil items consumed, variation between the FR cost of various equipment and the actual rates obtained through competitive bidding and revision in entry tax rates in Bihar.

18. It is observed that the cost estimates of the Petitioner in case of the transmission asset are not realistic. We are of the view that the Petitioner should adopt a prudent procedure to make cost estimates of different elements of the transmission projects more realistic.

Interest During Construction (IDC)

19. The Petitioner has claimed IDC of ₹14.80 lakh for the transmission asset and has submitted the Auditor's Certificate in support of the same. The Petitioner has submitted computation of IDC along with the year-wise details of the discharged IDC.



20. The allowable IDC has been worked out considering the information submitted by the Petitioner for the transmission asset on cash basis. The loan details submitted in Form-9C for the 2014-19 tariff period and the IDC computation sheet have been considered for the purpose of computation of IDC on cash and accrued basis. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged.

21. Accordingly, based on the information furnished by the Petitioner, IDC considered is summarized as under:-

(₹ in lakh)

IDC approved in order 1.9.2017 in Petition No. 209/TT/2016	IDC claimed by Petitioner (As per Auditor Certificate)	Entitled IDC up to Actual COD (31.8.2016)	IDC disallowed as on Actual COD(31.8.2016) due to computation difference	Un-discharged portion of entitled IDC as on Actual COD(31.8.2016)	IDC allowed on cash basis as on Actual COD (31.8.2016)
	A	B	C= A-B	D	E=B-D
14.75	14.80	14.80	0.00	7.89	6.91

22. The un-discharged portion of IDC is being allowed as ACE during the respective year of discharge and the same is summarized as under:

(₹ in lakh)

Un-discharged portion of entitled IDC as on actual COD (31.8.2016)	IDC being discharged as ACE	
	2016-17	2017-18
7.89	0.97	6.92

23. Since the COD of the transmission asset has been approved as 21.4.2017, the un-discharged portion of IDC of ₹0.97 lakh to be discharged during 2016-17 has been allowed in the capital cost as on COD along with the ACE incurred during 2016-17 (i.e. ACE incurred from 31.8.2016 to 31.3.2017).



Incidental Expenditure During Construction (IEDC)

24. The Petitioner has claimed IEDC of ₹9.56 lakh and submitted Auditor's certificate in support of the same. The Petitioner has also submitted that the entire IEDC has been discharged as on COD in respect of the transmission asset. The IEDC claimed is within the allowable limit of IEDC as indicated in the RCE. Hence, the IEDC claimed has been allowed.

Initial Spares

25. The Petitioner has claimed the following Initial Spares for the transmission asset and prayed to allow the Initial Spares as per actuals:

Plant & machinery Cost up to cut-off date (excluding IDC and IEDC as per auditor certificate) (A) (₹ in lakh)	Initial Spares Claimed (B) (₹ in lakh)	Ceiling (%) (C)
1591.49	82.00	6.0

26. We have considered the submissions of the Petitioner. The transmission asset was put into commercial operation on 21.4.2017. Therefore, the cut-off date is 31.3.2020 and the plant and machinery cost up to the cut-off date has been considered for computation of Initial Spares. The Petitioner's claim of Initial Spares for the transmission asset is within the norms specified in Regulation 13(d) of the 2014 Tariff Regulations and the same is allowed as under:

Plant & Machinery cost up to cut-off date (excluding IDC and IEDC as per Auditor certificate) (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling Limit (%) (C)	Allowable Initial Spares worked out	Excess Initial Spares (₹ in lakh)	Initial Spares allowed (₹ in lakh)
			$D = [(A-B)*C / (100-C)]$		
1591.49	82.00	6.0	96.36	Nil	82.00



27. The Petitioner vide affidavit dated 14.9.2019 has submitted the details of Initial Spares discharged up to COD and remaining spares to be discharged during 2017-18. Further, the Petitioner has submitted that the Initial Spares discharged upto COD have been included in the cost as mentioned in the Auditor's certificate up to COD and the remaining spares have been claimed as ACE during 2017-18. Accordingly, based on the submission of the Petitioner, the following discharge portion of Initial Spares during 2017-18 have been considered:

(₹ in lakh)		
Admissible Initial Spares	Initial Spares Discharged as on COD	Initial Spares allowed as ACE 2017-18
82.00	44.46	37.54

Capital cost as on COD

28. Accordingly, the trued up capital cost as on COD is as under:

(₹ in lakh)			
Capital cost as on COD as per Auditor Certificate	Less: IDC as on COD due to		Capital cost considered as on COD
	Computation difference	Un-discharged	
876.24	0.00	6.92	869.32

Additional Capital Expenditure (ACE)

29. ACE after the date of commercial operation is to be dealt in accordance with the provisions of Regulation 14(1) of the 2014 Tariff Regulations. The Petitioner has claimed ACE of ₹240.84 lakh, including IDC of ₹6.92 lakh discharged during 2017-18 and ₹244.53 lakh during 2018-19 for the transmission asset. The Petitioner, vide affidavit dated 14.9.2019, has submitted that ACE is mainly on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies of works executed within the cut-off date. ACE during 2017-18 and 2018-



19 period for the transmission asset has been claimed under Regulation 14(1)(i) of the 2014 Tariff Regulations and is within the cut-off the date. The Petitioner vide affidavit dated 5.5.2020 in response to the query through technical validation letter has further submitted that actual ACE from 31.8.2016 to 31.3.2017 during 2016-17 period on account of balance and retention payments is ₹238.69 lakh which is lower by ₹152.63 lakh from the approved ACE of ₹391.32 lakh during 2016-17 in order dated 1.9.2017 in Petition No. 209/TT/2016. The Petitioner has also submitted that the reduction in ACE during 2016-17 has led to the reduction in capital cost claimed as on COD.

30. The Petitioner has further submitted that ACE upto 31.3.2019 has been considered in the Auditor's certificate as per actuals whereas ACE claimed for the period from 1.4.2019 to 31.3.2020 is on estimated basis and may vary due to final claim/ reconciliation at the time of contract closing. The contract-wise details of works deferred for execution are as under:

Party	Package	Financial Year	
		2017-18	2018-19
Empowertrans Pvt. Ltd.	Sub-station Work	233.92	244.53
Total		233.92	244.53

31. ACE claimed by the Petitioner during 2017-18 and 2018-19 for the transmission asset is on account of balance and retention payment and accrual IDC discharged in 2017-18 and discharge of Initial Spares during 2017-18. It is observed that total estimated completion cost including ACE during 2017-18 and 2018-19 period is within the approved apportioned cost. Further, as discussed above, the Initial Spares discharge of ₹37.54 lakh during 2017-18 has been adjusted from the



balance and retention payment allowed for the said period. ACE claimed by the Petitioner during 2014-19 for the transmission asset is within the cut-off date and the same has been allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations as under:-

(₹ in lakh)

Particulars	ACE	
	2017-18	2018-19
ACE to the extent of Balance & Retention Payments other than Initial Spares and IDC	196.38	244.53
Add: Initial Spares Discharged	37.54	0.00
Add: IDC Discharged	6.92	0.00
Total ACE allowed	240.84	244.53

32. Accordingly, the capital cost considered for computation of tariff is as under:

(₹ in lakh)

Capital cost as on COD	ACE		Total capital cost including additional capitalization as on 31.3.2019
	2017-18	2018-19	
869.32	240.84	244.53	1354.69

(₹ in lakh)

	Capital cost as on COD	ACE		Total capital cost including ACE as on 31.3.2019
		2017-18	2018-19	
Approved vide order dated 1.9.2017 in Petition No. 209/TT/2016	1021.95	300.36	293.49	1615.80
Claimed by the Petitioner in the instant petition	869.32	240.84	244.53	1354.69
Allowed after truing-up in the instant petition.	869.32	240.84	244.53	1354.69

Debt-Equity Ratio

33. The Petitioner has considered debt-equity ratio as 70:30 as on COD and for ACE post-COD. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and for ACE during 2017-18 and 2018-19 as provided under Regulation



19 of the 2014 Tariff Regulations. The details of the debt-equity ratio as on the date of COD and as on 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

	As on COD		As on 31.3.2019	
	Amount (₹ in lakh)	(%)	Amount (₹ in lakh)	(%)
Debt	608.53	70.00	948.29	70.00
Equity	260.79	30.00	406.40	30.00
Total	869.32	100.00	1354.69	100.00

Interest on Loan (IoL)

34. The Petitioner has claimed IoL based on actual interest rates for each year during the 2014-19 tariff period. The Petitioner has considered the weighted average rate of IoL on the basis of prevailing rates as on 1.4.2014 for respective loans and has prayed to consider the floating rate of interest applicable during 2014-19 period, if any, during the truing-up of tariff.

35. We have considered the submissions of the Petitioner. It is observed that the SBI and ICICI loan with respect to transmission assets in the instant petition have been deployed with floating rates of interest. Accordingly, factoring in the impact of floating rate of interest, IoL has been worked out based on the actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations.

36. IoL has been worked out as detailed below:-

- (i) Gross amount of loan, repayment of instalments and weighted average rate of interest on actual average loan have been considered as per the petition.
- (ii) The repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period.



37. The details of IoL allowed for the transmission asset are as follows:-

Particular	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Gross Normative Loan	608.53	777.12
Cumulative Repayments up to Previous Year	0.00	49.66
Net Loan-Opening	608.53	727.47
Additions due to Additional Capitalization	168.59	171.17
Repayment during the year	49.66	65.46
Net Loan-Closing	727.47	833.17
Average Loan	668.00	780.32
Weighted Average Rate of Interest on Loan (%)	7.83	7.77
Interest on Loan	49.45	60.61

38. Accordingly, IoL approved vide order dated 1.9.2017 in Petition No. 209/TT/2016, claimed by the Petitioner in the instant petition and true-up IoL allowed in this order is shown in the table below:-

Particular	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Allowed in order dated 1.9.2017 in Petition No. 209/TT/2016	63.46	78.97
Claimed by the Petitioner in the instant petition	49.41	60.62
Allowed after true-up in this order	49.45	60.61

Return on Equity (RoE)

39. The Petitioner has claimed RoE for the transmission asset in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed following effective tax rates for the 2014-19 tariff period:

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



40. The Commission, vide order dated 27.4.2020 in Petition No. 274/TT/2019, had arrived at the effective tax rate for the Petitioner based on the notified MAT rates. The relevant portion of the order dated 27.4.2020 is as under:

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

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

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

41. The same MAT rates as considered in the above order, are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations 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



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

42. Accordingly, RoE allowed for the transmission asset is as follows:-

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Opening Equity	260.79	333.04
Addition due to Additional Capitalization	72.25	73.36
Closing Equity	333.04	406.40
Average Equity	296.92	369.72
Return on Equity (Base Rate) (%)	15.50	15.50
Tax Rate applicable (%)	21.342	21.549
Rate of Return on Equity (Pre-tax) (%)	19.705	19.758
Return on Equity (Pre-tax)	55.30	73.05

43. Accordingly, the details of the RoE approved in order dated 1.9.2017 in Petition No.209/TT/2016, claimed by the Petitioner in the instant petition and trued-up RoE allowed in this order is shown in the table below:-

Particular	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Allowed in order dated 1.9.2017 in Petition No. 209/TT/2016	65.18	86.42
Claimed by the Petitioner in the instant petition	55.26	73.05
Approved in this order	55.30	73.05

Depreciation

44. The Petitioner has claimed depreciation considering capital expenditure of ₹869.32 lakh on COD and Additional Capital Expenditure of ₹485.37 lakh (including IDC discharged during 2017-18).

45. Depreciation has been computed considering capital expenditure as on COD and ACE approved for the 2014-19 tariff period. The weighted average useful life of the transmission asset as on COD has been considered as 25 years in accordance



with Regulation 27 of the 2014 Tariff Regulations. The Gross Block during the tariff period 2014-19 with regard to transmission asset has been depreciated at weighted average rate of depreciation (WAROD) and working of WAROD is attached as Annexure-1. 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 2014-19 for the transmission asset is as under:-

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Opening Gross Block	869.32	1110.16
Additional Capitalisation	240.84	244.53
Closing Gross Block	1110.16	1354.69
Average Gross Block	989.74	1232.43
Weighted average rate of Depreciation (WAROD) (%)	5.31	5.31
Balance useful life of the asset at the beginning of the year	25.00	25.00
Aggregated Depreciable Value	890.77	1109.19
Remaining Depreciable value at the end of the year	841.11	994.07
Combined Depreciation during the year	49.66	65.46

46. The details of the depreciation approved in order dated 1.9.2017 in Petition No. 209/TT/2016, claimed by the Petitioner in the instant petition and trued-up depreciation is shown in the table below:-

Particular	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Allowed earlier in order dated 1.9.2017 in Petition No. 209/TT/2016	58.82	78.00
Claimed by the Petitioner in the instant petition	49.62	65.46
Allowed after true-up in this order	49.66	65.46

Operation & Maintenance Expenses (O&M Expenses)



47. The O&M Expenses claimed by the Petitioner and allowed as per Regulation 29(4)(a) of the 2014 Tariff Regulations for purpose of computation of tariff are the same and are as under:-

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata for 345 days)	2018-19
Norm (₹ lakh/bay)		
400 kV Bay	66.51	68.71
Number of bays		
2 No of 400 kV line Bays at Muzaffarpur		
Total O&M Expenses (Claimed)	125.63*	137.42
Total O&M Expense (Approved)	125.73	137.42

* The minor difference in claimed O&M is on account of variation in consideration of days of operation during 2017-18 by the Petitioner wherein the Petitioner has considered the days of operation as 344.72 days and the actual days of operation during 2017-18 works out to 345 days.

Interest on Working Capital (IWC)

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

(i) Maintenance Spares:

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

(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.



49. IWC allowed for the transmission asset is as under:-

(₹ in lakh)

Particulars	2017-18 (Pro-rata for 345 days)	2018-19
O & M Expenses	11.09	11.45
Maintenance Spares	19.95	20.61
Receivables	51.12	57.98
Total Working Capital	82.16	90.05
Rate of Interest (%)	12.60	12.60
Interest of working capital	9.79	11.35

50. The details of IWC approved in order dated 1.9.2017 in Petition No.209/TT/2016, claimed by the Petitioner in the instant petition and trued-up IWC allowed in the instant order is shown in the table below:-

(₹ in lakh)

Particulars	2017-18 (Pro-rata for 345 days)	2018-19
Allowed earlier in order dated 1.9.2017 in Petition No.209/TT/2016	10.28	12.49
Claimed by the Petitioner in the instant petition	9.77	11.35
Allowed after truing-up in this order	9.79	11.35

Approved Annual Fixed Charges For 2014-19 Tariff Period

51. The trued-up annual transmission charges allowed for the transmission asset 2014-19 tariff period after truing up are as under:

(₹ in lakh)

Particulars	2017-18 (Pro-rata for 345 days)	2018-19
Depreciation	49.66	65.46
Interest on Loan	49.45	60.61
Return on Equity	55.30	73.05
Int. on Working Capital	9.79	11.35
Op. and Maintenance	125.73	137.42
Total	289.93	347.89

52. The Annual Transmission Charges allowed vide order dated 1.9.2017 in Petition No. 209/TT/2016, claimed by the Petitioner in the instant petition and allowed after true up in the instant order for the 2014-19 tariff period are as under:



(₹ in lakh)

Particulars	2017-18 (Pro-rata for 345 days)	2018-19
Allowed earlier in order dated 1.9.2017 in Petition No.209/TT/2016	323.47	393.30
Claimed by the Petitioner in instant petition	289.69	347.90
Allowed after truing-up in this order	289.93	347.89

Determination of Annual Fixed Charges for 2019-24 Tariff Period

53. The Petitioner has claimed the following transmission charges for the transmission asset for the 2019-24 tariff period:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	78.81	85.71	85.71	85.71	85.71
Interest on Loan	69.43	70.07	63.68	57.34	50.45
Return on Equity	88.04	95.78	95.78	95.78	95.78
Interest on Working Capital	6.39	6.73	6.73	6.75	6.74
O & M Expenses	65.04	67.30	69.64	72.06	74.56
Total	307.71	325.59	321.54	317.64	313.24

54. The Petitioner has claimed the following IWC for the transmission asset for the 2019-24 tariff period:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	5.42	5.61	5.80	6.01	6.21
Maintenance Spares	9.76	10.10	10.45	10.81	11.18
Receivables	37.83	40.14	39.64	39.16	38.51
Total	53.01	55.85	55.89	55.98	55.90
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	6.39	6.73	6.73	6.75	6.74

Capital Cost

55. Regulation 19 of 2019 Tariff Regulation provide as follows:

"19 Capital Cost (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.



(2) *The Capital Cost of a new project shall include the following:*

- (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

(3) *The Capital cost of an existing project shall include the following:*

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (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 up to 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 DeendayalUpadhyaya 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.“*

56. The Petitioner has claimed the capital cost of the transmission asset as ₹1354.69 lakh as on 31.3.2019.

57. The admitted tried-up capital cost of ₹1354.69 lakh as on 31.3.2019 has been considered as the opening capital cost as on 1.4.2019 for determination of tariff for 2019-24 tariff period in accordance with Regulation 19 of the 2019 Tariff Regulations. The element-wise break-up of the capital cost (i.e. land, building, transmission line,



sub-station and PLCC) as admitted by the Commission as on 31.3.2019 for transmission asset is per the following details:

(₹ in lakh)	
Element	
Building & Other Civil Works	0.00
Transmission Line	0.00
Sub-Station Equipment	1317.58
PLCC	37.11
IT Equipment & Software	0.00
Total	1354.69

Additional Capital Expenditure (ACE)

58. Regulations 24 and 25 of the 2019 Tariff Regulations provides as under:-

“24. Additional Capitalization within the original scope and upto the cut-off date

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

- (a) Undischarged liabilities recognized to be payable at a future date;*
- (b) Works deferred for execution;*
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;*
- (e) Change in law or compliance of any existing law; and*
- (f) Force Majeure events:*

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.”

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

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

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*



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

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

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

59. The Petitioner has claimed projected ACE for 2019-24 period and submitted Auditor’s Certificates in support of the same. The details of projected ACE for 2019-20 period as per Auditor’s Certificates is ₹261.16 lakh.

60. The Petitioner vide affidavits dated 14.9.2019 and 5.5.2020 has submitted that ACE claimed for the period 1.4.2019 to 31.3.2020 is on account of balance and retention payment and is within the cut-off date. The contract-wise details for balance and retention payments are as detailed below:

(₹ in lakh)		
Party	Package	Financial Year
		2019-20
Empowertrans Pvt. Ltd.	Sub-station Work	261.16
Total		261.16

61. We have considered the submissions of the Petitioner. It is observed that the projected ACE falls within the cut-off date in the instant petition and is on account of balance and retention payment for works executed within the cut-off date. The same



has been considered for computation of total capital cost as on 31.3.2024. ACE claimed for the period 2019-24 is allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations which would be subject to true up in future.

62. ACE allowed is subject to true up and the ACE allowed is summarized below:

Particulars	Regulation	(₹ in lakh)
		Combined Asset 2019-20
ACE to the extent of Balance & Retention Payments for works executed within cut-off date	Regulation 24(1)(a) of the 2019 Tariff Regulations	261.16

Capital cost for the 2019-24 tariff period

63. Accordingly, the capital cost of the transmission asset considered for the 2019-24 tariff period, subject to truing up, is as follows:

(₹ in lakh)		
Capital Cost allowed as on 1.4.2019	ACE allowed for the year 2019-20	Total Estimated Completion Cost up to 31.3.2024
1354.69	261.16	1615.85

64. Against the overall RCE approved capital cost of ₹1656.00 lakh, the estimated project completion cost of the transmission asset including additional capital expenditure as on 31.3.2024 is ₹1615.85 lakh which is within the RCE cost. Therefore, there is no cost over-run as per the RCE cost.

Debt-Equity Ratio

65. Regulation 18 of the 2019 Tariff Regulations provide as under:

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

Provided that:



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

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

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

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:

Provided that in case of a generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life



extension shall be serviced in the manner specified in clause (1) of this Regulation.”

66. The details of the debt-equity ratio considered for the purpose of computation of tariff for the 2019-24 tariff period for the transmission asset is as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(%)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(%)
Debt	948.29	70.00	1131.11	70.00
Equity	406.40	30.00	484.75	30.00
Total	1354.69	100.00	1615.85	100.00

Return on Equity (RoE)

67. Regulation 30 and 31 of the 2019 Tariff Regulations provide as under:-

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission project including communication project 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 due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission project;

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 project 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 project up to load dispatch centre or protection project 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.”

68. The Petitioner has submitted that MAT rate is applicable to the Petitioner company. Accordingly, the MAT rate applicable during the 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance with Clause (3) of Regulation 31 of the 2019 Tariff Regulations. RoE allowed for the transmission asset under Regulation 30 of the 2019 Tariff Regulations is as under:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	406.40	484.75	484.75	484.75	484.75
Addition due to Additional Capitalization	78.35	0.00	0.00	0.00	0.00
Closing Equity	484.75	484.75	484.75	484.75	484.75
Average Equity	445.57	484.75	484.75	484.75	484.75
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
Tax Rate applicable (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
Return on Equity (Pre-tax)	83.69	91.05	91.05	91.05	91.05

Interest on Loan (IoL)

69. Regulation 32 of the 2019 Tariff Regulations provides as under: -

*“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 up to 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 project, 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”.

70. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. In view of above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the transmission asset for the 2019-24 period is as follows:

(₹ in lakh)					
Particular	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	948.29	1131.11	1131.11	1131.11	1131.11
Cumulative Repayments up to Previous Year	115.12	193.93	279.64	365.35	451.05
Net Loan-Opening	833.17	937.17	851.47	765.76	680.05
Addition due to Additional Capitalization	182.81	0.00	0.00	0.00	0.00
Repayment during the year	78.81	85.71	85.71	85.71	85.71
Net Loan-Closing	937.17	851.47	765.76	680.05	594.35



Average Loan	885.17	894.32	808.61	722.91	637.20
Weighted Average Rate of Interest on Loan (%)	7.843	7.834	7.875	7.931	7.917
Interest on Loan	69.42	70.06	63.68	57.34	50.45

Depreciation

71. Regulation 33 of the 2019 Tariff Regulations provide as under:

“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.”

72. Depreciation for the transmission asset has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The weighted average rate of depreciation (WAROD) has been worked out (Annexure-2) after taking into account the depreciation rates of assets as prescribed in the 2019 Tariff Regulations. The depreciation allowed for the transmission asset for the 2019-24 period is as follows:

(₹ in lakh)

Particular	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	1354.69	1615.85	1615.85	1615.85	1615.85
Addition during the year 2019-24 due to projected Additional Capitalisation	261.16	0.00	0.00	0.00	0.00
Closing Gross Block	1615.85	1615.85	1615.85	1615.85	1615.85
Average Gross Block	1485.27	1615.85	1615.85	1615.85	1615.85
Weighted average rate of Depreciation (WAROD)(%)	5.31	5.30	5.30	5.30	5.30
Balance useful life at the beginning of the year	24.00	23.00	22.00	21.00	20.00
Aggregated Depreciable Value	1336.75	1454.27	1454.27	1454.27	1454.27
Remaining Aggregate Depreciable Value at the end of the year	1142.81	1174.63	1088.92	1003.22	917.51



Particular	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Depreciation during the year	78.81	85.71	85.71	85.71	85.71
Aggregate Cumulative Depreciation	193.93	279.64	365.35	451.05	536.76

Operation & Maintenance Expenses (O&M Expenses)

73. Regulation 35(3) and (4) of the 2019 Tariff Regulations provides as under:

“35 (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



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)</i>	2,468	2,555	2,645	2,738	2,834
<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i>	2,563	2,653	2,746	2,842	2,942

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

(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."

74. The Petitioner has claimed O&M Expenses for following transmission asset:

Sub-stations (400 kV AIS):

(1) Muzaffarpur: Line Bays – 2 Bay

Communication System:

(2) PLCC

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

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



bays (as per norms)					
400 kV AIS	64.30	66.56	68.90	71.32	73.82
Total O&M Expenses	64.30	66.56	68.90	71.32	73.82

PLCC					(₹ in lakh)
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M for PLCC (as per norms)					
PLCC	0.74	0.74	0.74	0.74	0.74
Total O&M Expenses	0.74	0.74	0.74	0.74	0.74

					(₹ in lakh)
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Total O&M Expenses Claimed	65.04	67.30	69.64	72.06	74.56

76. The Petitioner has claimed O&M Expenses separately for the PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition and the Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2014 Tariff Regulations and 2019 Tariff Regulations and the norms for sub-station has been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed. The relevant portions of the order dated 24.1.2021 in Petition No.126/TT/2020 are extracted hereunder:

"103. Thus, although PLCC equipment is a communication system, it has been considered as a part of sub-station, as it is used both for protection and communication. Therefore, we are of the considered view that rightly, it was not considered for separate O&M Expenses while framing norms of O&M for 2019-24 tariff period. While specifying norms for bays and transformers, O&M Expenses for PLCC have been included within norms for O&M Expenses for sub-station. Norms of O&M Expenses @2% of the capital cost in terms of Regulation 35(4) of the 2019 Tariff Regulations have been specified for communication system such as PMU, RMU, OPGW etc. and not for PLCC equipment.



105. In our view, granting of O&M Expenses for PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations under the communication system head would tantamount to granting O&M Expenses twice for PLCC equipment as PLCC equipment has already been considered as part of the sub-station. Therefore, the Petitioner's prayer for grant of O&M Expenses for the PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations is rejected.

106. The principle adopted in this petition that PLCC is part of sub-station and accordingly no separate O&M Expenses is admissible for PLCC equipment in the 2019-24 tariff period under Regulation 35(4) of the 2019 Tariff Regulations shall be applicable in case of all petitions where similar claim is made by the Petitioner. As already mentioned, the Commission, however, on the basis of the claim made by the Petitioner has inadvertently allowed O&M Expenses for PLCC equipment @2% of its original project cost, which is applicable for other "communication system", for 2019-24 period in 31 petitions given in Annexure-3 of this order. Therefore, the decision in this order shall also be applicable to all the petitions given in Annexure-3. Therefore, PGCIL is directed to bring this decision to the notice of all the stakeholders in the 31 petitions given in Annexure-3 and also make revised claim of O&M Expenses for PLCC as part of the sub-station at the time of truing up of the tariff allowed for 2019-24 period in respective petitions."

Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

77. The O&M Expenses are allowed for the transmission assets under Regulation 35(3) and (4) of the 2019 Tariff Regulations and are as under:

Sub-station Bays					(₹ in lakh)
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norm (₹ lakh/bay)					
400 kV AIS	32.150	33.280	34.450	35.660	36.910
Number of bays					
400 kV AIS	2	2	2	2	2
O&M Expense for 400 kV AIS	64.30	66.56	68.90	71.32	73.82
Total O&M Expenses	64.30	66.56	68.90	71.32	73.82

					(₹ in lakh)
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Total O&M Expenses Allowed	64.30	66.56	68.90	71.32	73.82

Interest on Working Capital (IWC)



78. Regulation 34(1)(c), (3) and (4) and Clause (7) of Regulation 3 of the 2019 Tariff Regulations specify as follows:-

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

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

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses, including security expenses for one month.”

“(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission project including communication project 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. Definition- *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;”

79. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the bank rate as on 1.4.2019. The rate of interest on working capital considered is 12.05%.

80. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest on working capital 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, Rate of Interest 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 is as under:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	5.36	5.55	5.74	5.94	6.15
Maintenance Spares	9.65	9.98	10.34	10.70	11.07
Receivables	37.19	39.40	38.90	38.42	37.77
Total	52.20	54.93	54.98	55.06	55.00
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest of working capital	6.29	6.18	6.18	6.19	6.19

Annual Fixed Charges for the 2019-24 Tariff Period

81. The annual fixed charges for the transmission asset for the tariff period 2019-24 are summarized below:-

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	78.81	85.71	85.71	85.71	85.71
Interest on Loan	69.42	70.06	63.68	57.34	50.45
Return on Equity	83.69	91.05	91.05	91.05	91.05
Interest on Working Capital	6.29	6.18	6.18	6.19	6.19
Operation and Maintenance	64.30	66.56	68.90	71.32	73.82
Total	302.51	319.56	315.52	311.60	307.21

Filing Fee and Publication Expenses

82. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses in terms of Clause (1) of Regulation 70 of the 2019 Tariff Regulations. 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 Clause (1) of Regulation 70 of the 2019 Tariff Regulations.



Licence Fee and RLDC Fees and Charges

83. The Petitioner has requested to allow it to bill and recover license fee and RLDC fees and charges, separately from the Respondents. The Petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (4) and (3) respectively of Regulation 70 of the 2019 Tariff Regulations.

Goods and Services Tax

84. The Petitioner has sought to recover GST on transmission charges separately from the Respondents, if GST on transmission is withdrawn from negative list in future.

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

Security Expenses

86. 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 Interest on Working Capital. 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 the difference, if any, between the estimated security expenses and



actual security expenses as per the duly audited accounts may be allowed to be recovered from the beneficiaries on yearly basis.

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

Capital Spares

88. 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

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

90. To summarise, the trued-up Annual Fixed Charges allowed for the transmission asset for the 2014-19 tariff period are as under:-



(₹ in lakh)

Particulars	2017-18 (Pro-rata for 345 days)	2018-19
Annual Fixed Charges	289.93	347.89

91. The Annual Fixed Charges allowed for the transmission asset for the 2019-24 tariff period in this order are as under:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fixed Charges	302.51	319.56	315.52	311.60	307.21

92. This order disposes of Petition No. 504/TT/2019.

**Sd/
(Arun Goyal)
Member**

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



Petition No.:	504-TT-2019
Period	2014-19 True-up

Annexure - 1

2014-19 Capital Expenditure as on COD	Admitted Capital Cost as on COD (₹ in lakh)	Additional Capitalization (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations	
		2017-18	2018-19			2017-18 (₹ in lakh)	2018-19 (₹ in lakh)
Sub Station	853.50	219.55	244.53	1317.58	5.28%	50.86	63.11
PLCC	15.82	21.29	0.00	37.11	6.33%	1.68	2.35
TOTAL	869.32	240.84	244.53	1354.69		52.54	65.46
Average Gross Block (₹ in lakh)						989.74	1232.43
Weighted Average Rate of Depreciation (₹ in lakh)						5.31%	5.31%

Petition No.:	504-TT-2019
Period	2019-24 Tariff

Annexure - 2

2019-24 Capital Expenditure as on 1.4.2019	Combined Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Additional Capitalization (₹ in lakh) (2019-20)	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations				
					2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Sub Station	1317.58	261.16	1578.74	5.28%	76.46	83.36	83.36	83.36	83.36
PLCC	37.11	0.00	37.11	6.33%	2.35	2.35	2.35	2.35	2.35
TOTAL	1354.69	261.16	1615.85		78.81	85.71	85.71	85.71	85.71
Average Gross Block (₹ in lakh)					1485.27	1615.85	1615.85	1615.85	1615.85
Weighted Average Rate of Depreciation (₹ in lakh)					5.31%	5.30%	5.30%	5.30%	5.30%

