

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 478/TT/2019.

Coram:

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

Date of Order : 27.08.2020

In the Matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2019 for Tuticorin JV –Madurai 400 kV D/C (Quad Conductor) Line and extension of 400/220 kV Madurai Sub-station under ATS of Tuticorin JV TPS in the Southern 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. Karnataka Power Transmission Corporation Ltd. (KPTCL),
Kaveri Bhavan, Bangalore – 560 009
2. Transmission Corporation of Andhra Pradesh Ltd., (APTRANSCO)
Vidyut Soudha, Hyderabad– 500082
3. Kerala State Electricity Board (KSEB)
Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004
4. Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO)
(Formerly Tamil Nadu Electricity Board -TNEB)
NPKRR Maaligai, 800, Anna Salai, Chennai – 600 002



5. Electricity Department
Govt of Pondicherry
Kumar House Complex Building II
Pondicherry - 605001
6. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)
APEPDCL, P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh,
7. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta, Tirupati-517 501,
Andhra Pradesh
8. Power Distribution Company of Andhra Pradesh limited (APCPDCL)
Corporate Office, Mint Compound,
Hyderabad – 500 063, Telangana
9. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL)
Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet,
Waranga– 506 004, Telangana
10. Bangalore Electricity Supply Company Ltd., (BESCOM)
Corporate Office, K.R. Circle
Bangalore – 560 001, Karanataka
11. Gulbarga Electricity Supply Company Ltd., (GESCOM),
Station Main Road, GULBURGA, Karnataka
12. Hubli Electricity Supply Company Ltd., (HESCOM),
Navanagar, PB Road, HUBLI, Karnataka
13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle
Mangalore – 575 001, Karnataka
14. Chamundeswari Electricity Supply Corporation Ltd., (CESC)
927, L J Avenue, Ground Floor, New Kantharaj Urs Road
Saraswatipuram, Mysore – 570 009, Karnataka
15. Electricity Department
Government of Goa
Vidyuti Bhawan, Panaji, Goa 403001
16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad, 500082
17. Tamil Nadu Transmission Corporation
NPKRR Maaligai, 800, Anna Salai
Chennai – 600 002

...Respondents



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

For Respondent : None

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the Petitioner”), a deemed transmission licensee, for truing up of the tariff for the period from 1.4.2014 to 31.3.2019 under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the period from 1.4.2019 to 31.3.2024 under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Tuticorin JV-Madurai 400 kV D/C (Quad Conductor) Line and extension of 400/220 kV Madurai Sub-station (hereinafter referred to as the “transmission assets” or as “instant assets”) under ATS of Tuticorin JV TPS in the Southern Region (hereinafter referred to as the “transmission project”).

2. The Petitioner has made the following prayers:

“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 10.1 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 10.1 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 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.

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

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

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

Background

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

- a) The Investment Approval and expenditure sanction to the transmission project was accorded by the Board of Directors of the Petitioner Company vide Memorandum Ref:- C/CP/Tuticorin JV TPS dated 20.2.2009 with an estimated cost of ₹35357 lakh including IDC of ₹2763 lakh based on the 4th Quarter 2008 price level. The instant assets were put into commercial operation on 1.2.2012. The scope of work covered under the transmission project is as under:-

Transmission Line

- i. Tuticorin JV – Madurai 400 kV D/C (Quad Conductor) line-158 km.

Sub-station

- ii. Extension of Madurai 400/220 kV Sub-station (PGCIL).

- b) The instant transmission assets were scheduled to be put into commercial operation on 19.2.2012 while they were put into commercial operation on 1.2.2012. Thus, there was no time over-run in case of the instant assets.



- c) The tariff for the instant assets from the date of commercial operation to 31.3.2014 was approved vide order date 30.9.2013 in Petition No.63/TT/2012. The tariff for the 2009-14 tariff period was trued up and the tariff for the 2014-19 tariff period was approved vide order dated 30.6.2016 in Petition No.445/TT/2014.
- d) The Petitioner has claimed the following trued-up tariff for the instant assets for the 2014-19 tariff period:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges (AFC) approved vide order dated 30.6.2016 in Petition No. 445/TT/2014	4394.85	4287.36	4179.09	4071.13	3963.43
AFC claimed by the Petitioner in the instant petition	4395.15	4294.05	4185.33	4077.37	3973.74

4. The Respondents are distribution licensees and power departments, which are procuring transmission service from the Petitioner, mainly beneficiaries of the Southern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has also been published in newspaper in accordance with Section 64 of the Electricity Act 2003. No comments/ objections have been received from the general public in response to the notice published in the newspaper by the Petitioner. Further, none of the Respondents have filed their reply in the matter though a general notice was issued on 14.1.2020 directing the beneficiaries of the respective transmission projects to file the reply.

6. This order is issued considering the submissions made in petition dated 5.10.2019 and the submissions made in affidavit dated 4.5.2020.



7. The hearing in this matter was held on 17.7.2020 through video conference and the order was reserved.

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

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

9. The details of the trued up transmission charges claimed by the Petitioner in respect of the instant assets for the 2014-19 tariff period are as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1309.07	1309.16	1309.24	1309.24	1309.24
Interest on Loan	1235.01	1119.68	1004.05	888.15	772.24
Return on Equity	1461.09	1467.88	1467.23	1467.23	1471.18
Interest on Working Capital	107.78	105.80	103.66	101.54	99.54
O & M Expenses	282.20	291.53	301.15	311.21	321.54
Total	4395.15	4294.05	4185.33	4077.37	3973.74

10. The details of the trued up Interest on Working Capital (IWC) claimed by the Petitioner in respect of the instant assets for the 2014-19 tariff period are as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	23.52	24.29	25.10	25.93	26.80
Maintenance Spares	42.33	43.73	45.17	46.68	48.23
Receivables	732.53	715.68	697.56	679.56	662.29
Total Working Capital	798.38	783.70	767.83	752.17	737.32
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	107.78	105.80	103.66	101.54	99.54

Capital Cost

11. The capital cost of the instant assets has been calculated in accordance with Regulation 9(3) and Regulation 9(6) of the 2014 Tariff Regulations. The Commission vide order dated 30.6.2016 in Petition No. 445/TT/2014 had approved the



transmission tariff for the instant assets for the 2014-19 tariff period based on admitted capital cost of ₹24816.86 lakh as on 31.3.2014 and projected ACE (additional capital expenditure) of ₹9.00 lakh during 2014-19 tariff period, which is as under:

(₹ in lakh)

Capital Cost as on 1.4.2014	Additional Capital Expenditure	Capital Cost as on 31.3.2019
	2014-15	
24816.86*	9.00	24825.86

*Cost after restricting the initial spares to the ceiling limit of ₹33.87 lakh as on COD during 2009-14. The cost as on 31.3.2014 i.e. as per order dated 30.6.2016 Petition No. 445/TT/2014 has been considered for the truing up of 2014-19.

Initial Spares

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

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

13. The Commission vide order dated 30.6.2016 in Petition No. 445/TT/2014 had allowed Initial Spares of ₹33.87 lakh and the Petitioner has accounted for the same while claiming capital cost of ₹24816.86 lakh as on 1.4.2014.

Additional Capital Expenditure (ACE)

14. The Commission vide order dated 30.6.2016 had allowed ACE of ₹9.00 lakh during 2014-15 towards balance and retention payments due to undischarged liabilities. Against this, the Petitioner vide Auditor Certificate dated 31.7.2019 has not claimed any ACE for the 2014-15. However, it has claimed ACE of ₹3.21 lakh during 2015-16 as undischarged liabilities for works executed within the cut-off date for



instant assets and payment made after cut-off date under Regulation 14(3)(v) of the 2014 Tariff Regulations. The details of ACE claimed by the Petitioner are as under:

(₹ in lakh)		
Period	Additional Capital Expenditure claimed	Regulation
2015-16	3.21	14(3)(v)
Total ACE claimed in 2014-19 tariff period	3.21	

15. The total capital cost of ₹24820.07 lakh claimed by the Petitioner as on 31.3.2019 is within the overall approved apportioned cost of ₹35357 lakh and ACE claimed during 2014-19 tariff period is lower than that approved vide order dated 30.6.2016 in Petition No. 445/TT/2014. Hence, considering the Petitioner's submissions, we have allowed ACE under Regulation 14(3)(v) of the 2014 Tariff Regulations. Accordingly, the capital cost considered for the 2014-19 tariff period is as under:

Capital cost as on 1.4.2014	Approved ACE					Capital Cost as on 31.3.2019
	2014-15	2015-16	2016-17	2017-18	2018-19	
24816.86	0	3.21	0	0	0	24820.07

Debt-Equity ratio

16. The Petitioner has claimed debt-equity ratio as on 31.3.2014 as approved by the Commission in its order in Petition No. 445/TT/2014. The same has been considered as opening debt-equity ratio as on 1.4.2014 and the details are as under:

(₹ in lakh)		
Particulars	Amount	(%)
Debt	17371.80	70.00
Equity	7445.06	30.00
Total	24816.86	100.00



17. The debt-equity ratio of 70:30 has been considered for ACE allowed during 2014-19 tariff period in accordance with Regulation 19(3) of the 2014 Tariff Regulations.

18. The details of the debt and equity as on 1.4.2014 and 31.3.2019 for the 2014-19 tariff period are as under:

(₹ in lakh)						
Particulars	Capital Cost as on 1.4.2014	(%)	ACE during 2014-19	(%)	Capital Cost as on 31.3.2019	(%)
Debt	17371.80	70.00	2.25	70.00	7446.02	70.00
Equity	7445.06	30.00	0.96	30.00	17374.05	30.00
Total	24816.86	100.00	3.21	100.00	24820.07	100.00

Interest on Loan (IoL)

19. The Petitioner has claimed the weighted average rate of IoL based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate submitted by the Petitioner, in accordance with the Regulation 26 of the 2014 Tariff Regulations. IoL worked out and allowed in this order is as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	17371.80	17371.80	17374.05	17374.05	17374.05
Cumulative Repayments upto Previous Year	2798.83	4107.90	5417.06	6726.30	8035.54
Net Loan-Opening	14572.97	13263.90	11956.99	10647.75	9338.51
Additions	0.00	2.25	0.00	0.00	0.00
Repayment during the year	1309.07	1309.16	1309.24	1309.24	1309.24
Net Loan-Closing	13263.90	11956.99	10647.75	9338.51	8029.27
Average Loan	13918.44	12610.44	11302.37	9993.13	8683.89
Weighted Average Rate of Interest on Loan (%)	8.8732	8.8790	8.8835	8.8876	8.8928
Interest on Loan	1235.02	1119.68	1004.05	888.15	772.24



20. The details of IoL approved in order dated 30.6.2016 in Petition No. 445/TT/2014, trued up IoL claimed by the Petitioner in the instant petition and trued up IoL allowed in the instant order are shown in the table as under:-

Particular	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 30.6.2016 in Petition No. 445/TT/2014	1235.29	1120.10	1004.34	888.43	772.49
Claimed by the Petitioner in the instant petition	1235.01	1119.68	1004.05	888.15	772.24
Allowed after true-up in this order	1235.02	1119.68	1004.05	888.15	772.24

Return on Equity (RoE)

21. The Petitioner is entitled for Return on Equity for the instant assets 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 rate (in %)	Grossed up ROE (Base Rate/1-t) (in %)
2014-15	21.018	19.625
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

22. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner. 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

”

23. 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.

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

24. The Petitioner has claimed RoE for the 2014-19 tariff period after grossing up the ROE of 15.50% with Effective Tax rates (based on MAT rates) each year as per the 2014 Tariff Regulation. RoE is trued up on the basis of the MAT rate applicable in the respective years and is allowed as under:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	7445.06	7445.06	7446.02	7446.02	7446.02
Additions	0.00	0.96	0.00	0.00	0.00



Closing Equity	7445.06	7446.02	7446.02	7446.02	7446.02
Average Equity	7445.06	7445.54	7446.02	7446.02	7446.02
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.610	19.705	19.705	19.705	19.758
Return on Equity	1460.01	1467.18	1467.27	1467.27	1471.15

25. The details of RoE approved in order dated 30.6.2016 in Petition No. 445/TT/2014, claimed by the Petitioner in the instant petition and true up RoE allowed in the instant order are shown in the table as under:

Particular	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 30.6.2016 in Petition No. 445/TT/2014	1460.27	1460.54	1460.54	1460.54	1460.54
Claimed by the Petitioner in the instant petition	1461.09	1467.88	1467.23	1467.23	1471.18
Allowed after true-up in this Order	1460.01	1467.18	1467.27	1467.27	1471.15

Depreciation

26. The Gross Block during the 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) as placed in Annexure-1. WAROD has been worked out after taking into account the depreciation rates of assets as prescribed in the 2014 Tariff Regulations and the depreciation allowed during the 2014-19 tariff period is as under:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	24816.86	24816.86	24820.07	24820.07	24820.07
Additional Capitalisation	0.00	3.21	0.00	0.00	0.00
Closing Gross Block	24816.86	24820.07	24820.07	24820.07	24820.07
Average Gross Block	24816.86	24818.47	24820.07	24820.07	24820.07
Weighted Average Rate of Depreciation (%)	5.27	5.27	5.27	5.27	5.27
Balance useful life of the asset	32.00	31.00	30.00	29.00	28.00
Elapsed life at the beginning of the year	2.00	3.00	4.00	5.00	6.00



Aggregated Depreciable Value	22335.17	22336.62	22338.06	22338.06	22338.06
Depreciation during the year	1309.07	1309.16	1309.24	1309.24	1309.24
Aggregate Cumulative Depreciation	4107.90	5417.06	6726.30	8035.54	9344.78
Remaining Aggregate Depreciable Value	18227.27	16919.56	15611.76	14302.52	12993.28

27. The details of the depreciation approved in order dated 30.6.2016 in Petition No. 445/TT/2014, trued up depreciation claimed by the Petitioner in the instant petition and trued up depreciation allowed in the instant order are shown in the table as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 30.6.2016 in Petition No. 445/TT/2014	1309.31	1309.55	1309.55	1309.55	1309.55
Claimed by the Petitioner in the instant petition	1309.07	1309.16	1309.24	1309.24	1309.24
Allowed after true-up in this order	1309.07	1309.16	1309.24	1309.24	1309.24

Operation & Maintenance Expenses (O&M Expenses)

28. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The total O&M Expenses for the instant assets claimed by the Petitioner are as under:

(₹ in lakh)					
O&M Expenses					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station Bays					
400 kV					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
Line: D/C Bundled(4 or more sub-conductors)					
Line Length (km)	152.17	152.17	152.17	152.17	152.17
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.21
Total O&M expense (₹ in lakh)	282.20	291.53	301.15	311.21	321.54



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

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses					
400 kV					
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
Transmission line					
Norms (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806

30. We have considered the submissions of the Petitioner. The O&M Expenses claimed by the Petitioner are as per the norms specified in the 2014 Tariff Regulations. Hence, they are allowed as claimed and are as under:

O&M Expenses					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Sub-station Bays					
400 kV					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
Line: D/C Bundled (4 or more sub-conductors)					
Line Length (km)	152.17	152.17	152.17	152.17	152.17
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.21
Total O&M expense (₹ in lakh)	282.20	291.53	301.15	311.21	321.54

31. The details of the O&M Expenses approved in order dated 30.6.2016 in Petition No. 445/TT/2014, claimed by the Petitioner in the instant petition and true up O&M Expenses allowed in the instant order are shown in the table as under:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved earlier vide order dated 30.6.2016 in Petition No. 445/TT/2014	282.20	291.53	301.15	311.21	321.55
Claimed by the Petitioner in the instant petition	282.20	291.53	301.15	311.21	321.54
Allowed after true-up in this order	282.20	291.53	301.15	311.21	321.54



Interest on Working Capital (IWC)

32. IWC has been worked out as per the methodology provided in the Regulation 28 of the 2014 Tariff Regulations and allowed as under:

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	23.52	24.29	25.10	25.93	26.80
Maintenance Spares	42.33	43.73	45.17	46.68	48.23
Receivables	732.34	715.55	697.56	679.57	662.29
Total Working Capital	798.19	783.58	767.83	752.18	737.31
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	107.76	105.78	103.66	101.54	99.54

33. The details of IWC approved in order dated 30.6.2016 in Petition No. 445/TT/2014, trued up IWC claimed by the Petitioner in the instant petition and trued up IWC allowed in the instant order are shown in the table as under:

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved earlier vide order dated 30.6.2016 in Petition No. 445/TT/2014	107.77	105.65	103.52	101.40	99.31
Claimed by the Petitioner in the instant petition	107.78	105.80	103.66	101.54	99.54
Allowed after true-up in this order	107.76	105.78	103.66	101.54	99.54

Approved Annual Fixed Charges for the 2014-19 Tariff Period

34. The trued up annual fixed charges for the instant transmission assets for the tariff period 2014-19 are summarised as under:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1309.07	1309.16	1309.24	1309.24	1309.24
Interest on Loan	1235.02	1119.68	1004.05	888.15	772.24
Return on Equity	1460.01	1467.18	1467.27	1467.27	1471.15
Interest on Working Capital	107.76	105.78	103.66	101.54	99.54
O & M Expenses	282.20	291.53	301.15	311.21	321.54
Total	4394.05	4293.32	4185.37	4077.42	3973.71



35. Accordingly, the Annual Fixed Charges approved in dated 30.6.2016 in Petition No. 445/TT/2014, trued Annual Fixed Charges claimed by the Petitioner in the instant petition and trued approved IWC after truing up for the instant assets is as under:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Approved earlier vide order dated 30.6.2016 in Petition No. 445/TT/2014	4398.85	4287.36	4179.09	4071.13	3963.43
Claimed by the Petitioner in the instant petition	4395.15	4294.05	4185.33	4077.37	3973.74
Allowed after true-up in this order	4394.05	4293.32	4185.37	4077.42	3973.71

36. The Annual Fixed Charges approved after truing up have slightly increased when compared to the Annual Fixed Charges approved earlier vide order dated 30.6.2016 in Petition No. 445/TT/2014 mainly due to actual MAT rates used for grossing up of rate of RoE.

Determination of Annual Fixed Charges for 2019-24 Tariff Period

37. The Petitioner has claimed the following transmission charges for the instant assets for the 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1309.24	1309.24	1309.24	1309.24	1309.24
Interest on Loan	656.31	540.34	424.30	308.17	191.80
Return on Equity	1398.51	1398.51	1398.51	1398.51	1398.51
Interest on Working Capital	62.22	61.03	59.70	58.39	56.94
O&M Expenses	266.91	276.17	285.82	295.85	306.11
Total	3693.19	3585.29	3477.57	3370.16	3262.60

38. The details of IWC claimed by the Petitioner in respect of the instant assets for the 2019-24 tariff period are as under:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	22.24	23.01	23.82	24.65	25.51



Maintenance Spares	40.04	41.43	42.87	44.38	45.92
Receivables	454.08	442.02	428.74	415.50	401.14
Total Working Capital	516.36	506.46	495.43	484.53	472.57
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	62.22	61.03	59.70	58.39	56.94

Capital Cost

39. 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*



- (e) *generating power from generating station based on renewable energy; and 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.”*

40. The Petitioner has claimed capital cost of ₹24820.07 lakh as on 31.3.2019 and the same has been approved and considered as 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)

41. The Petitioner has not claimed any ACE during the 2019-24 tariff period.

42. Accordingly, the capital cost as on 31.3.2024 for the instant assets is considered as under:

(₹ in lakh)		
Capital Cost as on 1.4.2019	ACE 2019-24	Capital Cost as on 31.3.2024
24820.07	Nil	24820.07

Debt-Equity ratio

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

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

Provided that:

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

(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.”

44. The details of the debt and equity considered for the purpose of tariff for the 2019-24 tariff period are as under:

Particulars	Capital Cost as on 1.4.2019 (Rs. in lakh)	%	ACE for 2019-24 (Rs. in lakh)	%	Capital Cost as on 31.3.2024 (Rs. in lakh)	%
Debt	17374.05	70.00	0.00	70.00	17374.05	70.00
Equity	7446.02	30.00	0.00	30.00	7446.02	30.00
Total	24820.07	100.00	0.00	100.00	24820.07	100.00

Return on Equity (RoE)

45. Regulation 30 and Regulation 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 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."

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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	7446.02	7446.02	7446.02	7446.02	7446.02
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	7446.02	7446.02	7446.02	7446.02	7446.02
Average Equity	7446.02	7446.02	7446.02	7446.02	7446.02
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Return on Equity	1398.47	1398.47	1398.47	1398.47	1398.47



Interest on Loan (IoL)

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

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

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

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

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

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

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;

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

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

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

48. 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. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the instant assets is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	17374.05	17374.05	17374.05	17374.05	17374.05
Cumulative Repayments upto Previous Year	9344.78	10654.03	11963.27	13272.51	14581.75
Net Loan-Opening	8029.27	6720.02	5410.78	4101.54	2792.30
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	1309.24	1309.24	1309.24	1309.24	1309.24
Net Loan-Closing	6720.02	5410.78	4101.54	2792.30	1483.06
Average Loan	7374.64	6065.40	4756.16	3446.92	2137.68
Weighted Average Rate of Interest on Loan (%)	8.8996	8.9086	8.9211	8.9403	8.9724
Interest on Loan	656.31	540.34	424.30	308.16	191.80

Depreciation

49. Regulation 33 of the 2019 Tariff Regulations provides that:-

“33. Depreciation: (1) *Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:*

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) *The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.*

(3) *The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:*

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State



Government for development of the generating station:

Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

(4) *Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.*

(5) *Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-I** to these regulations for the assets of the generating station and transmission system:*

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(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.*

50. 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 calculation of WAROD for the 2019-24 tariff period is placed in Annexure-2. The depreciation worked out for the instant assets is as under:

	(₹ in lakh)				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	24820.07	24820.07	24820.07	24820.07	24820.07
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	24820.07	24820.07	24820.07	24820.07	24820.07



Average Gross Block	24820.07	24820.07	24820.07	24820.07	24820.07
Weighted Average Rate of Depreciation (WAROD) (%)	5.27	5.27	5.27	5.27	5.27
Balance useful life of the asset	27	26	25	24	23
Elapsed life at the beginning of the year	7	8	9	10	11
Aggregate Depreciable value	22338.06	22338.06	22338.06	22338.06	22338.06
Depreciation during the year	1309.24	1309.24	1309.24	1309.24	1309.24
Cumulative Depreciation upto previous year	9344.78	10654.03	11963.27	13272.51	14581.75
Aggregated Cumulative Depreciation	10654.03	11963.27	13272.51	14581.75	15890.99
Remaining Aggregated Depreciable Value	11684.04	10374.80	9065.55	7756.31	6447.07

Operation & Maintenance Expenses (O&M Expenses)

51. Regulations 35(3)(a) and 4 of the 2019 Tariff Regulations provide that:

“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
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ 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.”

52. The O&M expenses claimed by the Petitioner for the instant assets for the 2019-24 tariff period are as under:

O&M Expenses	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV Bays					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Line: D/C Bundled(4 or more sub-conductors)					
Line Length (km)	152.17	152.17	152.17	152.17	152.17
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
PLCC					
Original Capital Cost	72.63	72.63	72.63	72.63	72.63
Norms (₹ lakh)	2% on Original Capital Cost				
Total O&M expense (₹ in lakh)	266.91	276.17	285.82	295.85	306.11

53. The O&M Expenses claimed by the Petitioner slightly vary from the norms specified in the 2019 Tariff Regulations and hence, they are allowed as per the norms specified in the 2019 Tariff Regulations which are as under:

(₹ in lakh)					
O&M Expenses	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV Bays					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Line: D/C Bundled(4 or more sub-conductors)					
Line Length (km)	152.17	152.17	152.17	152.17	152.17
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
PLCC					



Original Capital Cost	72.63	72.63	72.63	72.63	72.63
Norms (₹ lakh)	2% on Original Capital Cost				
Total O&M expense (₹ in lakh)	266.92	276.18	285.82	295.85	306.11

Interest on Working Capital (IWC)

54. 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 Coal-based/lignite-fired thermal generating stations:

- (i) *Cost of coal or lignite and limestone towards stock, if applicable, for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
- (ii) *Advance payment for 30 days towards cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;*
- (iii) *Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
- (iv) *Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;*
- (v) *Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and*
- (vi) *Operation and maintenance expenses, including water charges and security expenses, for one month.*

(b) For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:

- (i) *Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
- (ii) *Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;*
- (iii) *Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;*
- (iv) *Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel; and*
- (v) *Operation and maintenance expenses, including water charges and security expenses, for one month.*

(c) For Hydro Generating Station (including Pumped Storage Hydro



Generating Station) and Transmission System:

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

(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.”

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

56. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. ROI considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, whereas, ROI for 2020-21 onwards has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75%



plus 350 basis points). The components of the working capital and interest thereon allowed are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	22.24	23.01	23.82	24.65	25.51
Maintenance Spares	40.04	41.43	42.87	44.38	45.92
Receivables	454.08	441.51	428.24	415.01	400.66
Total Working Capital	516.36	505.95	494.93	484.04	472.09
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest on Working Capital	62.22	56.92	55.68	54.45	53.11

Annual Fixed Charges for the 2019-24 Tariff Period

57. The transmission charges allowed for the instant transmission assets for the 2019-24 tariff period are summarised below:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	1309.24	1309.24	1309.24	1309.24	1309.24
Interest on Loan	656.31	540.34	424.30	308.16	191.80
Return on Equity	1398.47	1398.47	1398.47	1398.47	1398.47
Interest on Working Capital	62.22	56.92	55.68	54.45	53.11
O & M Expenses	266.92	276.18	285.82	295.85	306.11
Total	3693.17	3581.15	3473.52	3366.18	3258.74

Filing Fee and the Publication Expenses

58. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Licence Fee & RLDC Fees and Charges

59. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The



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

Security Expenses

60. The Petitioner has submitted that security expenses for the instant assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 will be filed on a yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

61. 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. The Commission observes 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.

Goods and Services Tax

62. 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 Govt. / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

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

Capital Spares

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

Sharing of Transmission Charges

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

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

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges	4394.05	4293.32	4185.37	4077.42	3973.71



The Annual Fixed Charges allowed for the instant assets for the 2019-24 tariff period in this order are as under:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fixed Charges	3693.17	3581.15	3473.52	3366.18	3258.74

67. This order disposes of Petition No. 478/TT/2019.

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member



2014-19	Admitted Capital Cost as on 1.4.2014 / COD (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)														
		2015-16	Allowed			2014-15	2015-16	2016-17	2017-18	2018-19										
Capital Expenditure																				
Land - Freehold	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Land - Leasehold	0.00	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Building Civil Works & Colony	104.16	0.00	0.00	104.16	3.34%	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48	3.48		
Transmission Line	23471.25	0.00	0.00	23471.25	5.28%	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28	1239.28		
Sub Station	1168.82	3.21	3.21	1172.03	5.28%	61.71	61.80	61.88	61.88	61.88	61.88	61.88	61.88	61.88	61.88	61.88	61.88	61.88		
PLCC	72.63	0.00	0.00	72.63	6.33%	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60		
IT Equipment (Incl. Software)	0.00	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total	24816.86	3.21	3.21	24820.07	Total	1309.07	1309.16	1309.24	1309.24	1309.24	1309.24	1309.24	1309.24	1309.24	1309.24	1309.24	1309.24	1309.24		
					Average Gross Block (₹ in lakh)	24816.86					24820.07	24820.07	24820.07	24820.07	24820.07	24820.07	24820.07	24820.07	24820.07	
					Weighted Average Rate of Depreciation	5.27%					5.27%	5.27%	5.27%	5.27%	5.27%	5.27%	5.27%	5.27%	5.27%	5.27%

DETAILS OF WEIGHTED AVERAGE RATE OF DEPRECIATION FOR THE 2014-19 PERIOD



DETAILS OF WEIGHTED AVERAGE RATE OF DEPRECIATION FOR THE 2019-24 PERIOD

2019-24 Capital Expenditure	Combined Admitted Capital Cost as on 1.4.2019 / COD (₹ in lakh)	ACE (₹ in lakh) 2019-24	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)				
					2019-20	2020-21	2021-22	2022-23	2023-24
Land - Freehold	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00
Building Civil Works & Colony	104.16	0.00	104.16	3.34%	3.48	3.48	3.48	3.48	3.48
Transmission Line	23471.25	0.00	23471.25	5.28%	1239.28	1239.28	1239.28	1239.28	1239.28
Sub Station	1172.03	0.00	1172.03	5.28%	61.88	61.88	61.88	61.88	61.88
PLCC	72.63	0.00	72.63	6.33%	4.60	4.60	4.60	4.60	4.60
IT Equipment (Incl. Software)	0.00	0.00	0.00	15.00%	0.00	0.00	0.00	0.00	0.00
Total	24820.07	0.00	24820.07	Total	1309.24	1309.24	1309.24	1309.24	1309.24
Average Gross Block (₹ in lakh)					24820.07	24820.07	24820.07	24820.07	24820.07
Weighted Average Rate of Depreciation					5.27%	5.27%	5.27%	5.27%	5.27%

