

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 653/TT/2020

Coram:

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

Date of Order: 13.03.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing-up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of Tumkur (Pavagada) Pool-Hiriyur 400 kV D/C line along with associated bays and equipment at both ends under "Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-I" in Southern Region.

And in the matter of:

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

....Petitioner

Vs.

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



4. Tamil Nadu Generation and Distribution Corporation Limited,
(Formerly Tamil Nadu Electricity Board -TNEB),
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600002.
5. Electricity Department,
Government of Pondicherry,
Pondicherry – 605001.
6. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,
D. No: 19-13-65/A, Srinivasapuram, Corporate Office,
Tiruchanoor Road,
Tirupati – 517 503, Chittoor District, Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Limited,
6-1-50, Corporate Office, Mint Compound,
Hyderabad – 500063, Telangana.
9. Northern Power Distribution Company of Telangana Limited,
H. No. 2-5-3 1/2, Vidyut Bhawan, Corporate office,
Nakkal Gutta, Hanamkonda,
Warangal – 506001, Telangana.
10. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R. Circle,
Bangalore – 560001, Karnataka.
11. Gulbarga Electricity Supply Company Limited,
Station Main Road,
Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Limited,
Navanagar, PB Road,
Hubli, Karnataka.
13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Limited,
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore – 570009, 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 – 600002.
18. Karnataka Solar Power Development Corporation Limited,
2nd Floor, South Block, Beeja Raja Seed Complex,
Bellary Road, Hebbala,
Bengaluru – 560024, Karnataka.

....Respondent(s)

For Petitioner : Shri S.S. Raju, PGCIL
Shri D.K. Biswal, PGCIL
Shri Ved Prakash Rastogi, PGCIL
Shri A.K. Verma, PGCIL

For Respondents: Shri S. Vallinayagam, Advocate, TANGEDCO
Dr. R. Kathiravan, TANGEDCO
Shri R. Ramalakshmi, TANGEDCO
Shri R. Srinivasan, TANGEDCO

ORDER

The Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, has filed the instant petition for truing up of transmission tariff from the date of commercial operation (COD) to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of transmission tariff from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of Tumkur



(Pavagada) Pool-Hiriyur 400 kV D/C line along with associated bays and equipment at both ends (hereinafter referred to as “the transmission asset”) under “Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-I” in Southern Region (hereinafter referred to as “the transmission project”).

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

“1) Approve the trued-up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 11.2 and 12.0 above.

2) Approve the Completion cost and additional capitalization incurred during 2014-19 and allow the projected additional capitalization during 2019-24.

3) Allow the depreciation on the claim of IT equipment in the current true up petition as Bifurcation of Substation cost.

4) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 11.2 and 12.0 above for respective block.

5) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.

6) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

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

8) Allow the petitioner to file a separate petition before Hon’ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 11.6 above.

9) Allow the additional RoE of 0.5% during 2014-19 period as per para 5.5 above.



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

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

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

Background

3. The brief facts of the case are as follows:
- (a) The Investment Approval (“IA”) for implementation of the transmission project was accorded by the Board of Directors of the Petitioner in the 327th meeting held on 2.4.2016 and was communicated vide Memorandum No. C/CP/Solar Park Tumkur-I dated 8.4.2016 at an estimated cost of ₹81048 lakh, including IDC of ₹4997 lakh based on October, 2015 price level.
 - (b) Ministry of Power, Government of India, vide letter dated 8.1.2015 intimated the Petitioner for taking up of transmission system for evacuation of power from 9 solar generating parks to be set up in 7 States along with pooling stations as ISTS schemes which includes Tumkur (Pavagada) UMSPP on compressed time schedule basis.
 - (c) The Commission has accorded regulatory approval under Regulation 3 of the Central Electricity Regulatory Commission (Grant of Regulatory Approval for execution of Inter-State Transmission System to Central Transmission Utility) Regulations, 2010, for execution of subject transmission system vide order dated 19.8.2016 in Petition No. 36/MP/2016.



- (d) The scope of the transmission project was discussed and agreed in 39th and 40th meeting of Standing Committee on Power System Planning in SR held on 28/29.12.2015 and 19.11.2016, respectively. The transmission scheme has also been agreed in 29th Meeting of SRPC held on 5.3.2016 and 30th SRPC meeting held on 27.8.2016. The Petitioner has been entrusted with the implementation of the said project.
- (e) The scope of work covered under the transmission project is as follows:

Transmission Line

- i. Tumkur (Pavagada) Pool- Hiriyr 400 kV D/C line.
- ii. LILO of 400 kV D/C Gooty-Tumkur (Vasantnarsapur) D/C line at Tumkur (Pavagada) Pooling Station and LILO of 400 kV D/C Bellary –Tumkur (Vasantnarsapur) D/C (Quad Moose) TL at Tumkur (Pavagada) Pooling Station.

Sub-stations

a. 400/220 kV Tumkur (Pavagada) Pooling station (3x500 MVA ICTs)

400 kV

- | | | |
|-------|----------------------|-------------|
| (i) | Line bays | : 10 number |
| (ii) | Transformer bays | : 3 number |
| (iii) | Bus reactor bay | : 1 number |
| (iv) | 125 MVAR Bus Reactor | : 1 number |

220 kV

- | | | |
|-------|------------------|------------|
| (i) | Line bays | : 8 number |
| (ii) | Transformer bays | : 3 number |
| (iii) | Bus coupler bay | : 1 number |
| (iv) | TBC bay | : 1 number |

b. 400/220 kV Hiriyr (POWERGRID) Sub-station (Extension)

400 kV

- | | | |
|-----|-----------|------------|
| (i) | Line bays | : 2 number |
|-----|-----------|------------|



c. Reactive Compensation

Sl. No.	Sub-station	Bus Reactor
1	400/220 kV Tumkur (Pavagada) Pooling Station	1x125 MVAR (420 kV) Bus Reactor

- (f) The Petitioner has submitted that with the commercial operation of the transmission asset, the entire scope of the transmission project has been completed. Details of petitions filed in respect of the transmission project are as follows:

Name of Assets	COD (Actual)	Covered under petition
LILO of one circuit of 400 kV D/C Gooty-Tumkur (Vasantnarsapur) D/C line at Tumkur (Pavagada) pooling station.	6.12.2017	2/TT/2018
LILO of second circuit of 400 kV D/C Gooty-Tumkur (Vasantnarsapur) D/C line at Tumkur (Pavagada) pooling station along with associated bays and equipment.	1.2.2018	
New 400/220 kV pooling station at Tumkur (Pavagada) with 1x500 MVA 400/220 kV ICT-I along with associated bays & equipment.	6.12.2017	
1x125 MVAR 400 kV Bus reactor and along with associated bays & equipment at 400/220 kV Tumkur (Pavagada) pooling station.	31.3.2018	
LILO of 400 kV D/C Bellary - Tumkur (Vasantnarsapur) D/C (Quad Moose) TL at Tumkur (Pavagada) pooling station along with associated bays & equipment.	31.3.2018	
1x500 MVA 400/220 kV ICT-II at 400/220 kV Tumkur (Pavagada) pooling station along with associated bays & equipment.	14.2.2018	
1x500 MVA 400/220 kV ICT-III at 400/220 kV Tumkur (Pavagada) pooling station along with associated bays & equipment.	12.7.2018	
Tumkur (Pavagada) pool - Hiriur 400 kV D/C line along with associated bays & equipment at both ends	27.9.2018	Under instant petition

- (g) The transmission asset was scheduled to be put into commercial operation within 32 months from the date of IA i.e. 2.4.2016. Therefore, the scheduled COD of the transmission project was 2.12.2018 against which it was put into commercial operation on 27.9.2018. Thus, there is no time over-



run in case of the transmission asset.

(h) Transmission tariff in respect of the transmission asset from COD to 31.3.2019 was allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019.

(i) Annual Fixed Charges (AFC) approved by the Commission vide order dated 28.4.2020 in Petition No. 49/TT/2019 and trued up tariff claimed by the Petitioner in respect of the transmission asset for 2014-19 tariff period are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 186 days)
AFC approved vide order dated 28.4.2020 in Petition No. 49/TT/2019	1560.43
AFC claimed by the Petitioner based on truing up in the instant petition	1519.31

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

5. The Petitioner has served the petition on Respondents and notice regarding filing 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. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 4, has filed its reply vide affidavit dated 12.4.2021 and has raised the issues of recovery of transmission charges from the defaulting generators, license fees, GST and sharing of transmission charges. In response, the Petitioner has filed its rejoinder vide



affidavit dated 1.7.2021. The issues raised by TANGEDCO and the clarifications thereto given by the Petitioner have been dealt in the relevant portions of the order.

6. The hearing in this matter was held on 26.10.2021 through video conference and order was reserved.

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

8. This order is issued considering the submissions made by the Petitioner in the petition vide affidavits dated 24.6.2020 28.6.2021 and 17.11.2021, reply filed by TANGEDCO vide affidavit dated 12.4.2021 and the Petitioner's rejoinder affidavit dated 1.7.2021.

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 transmission asset are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 186 days)
Depreciation	405.09
Interest on Loan	425.79
Return on Equity	467.32
Interest on working capital	36.16
O&M Expenses	184.95
Total	1519.31

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



(₹ in lakh)

Particulars	2018-19 (Pro rata for 186 days)
O&M Expenses	30.25
Maintenance Spares	54.45
Receivables	496.91
Total	581.61
Rate of Interest (in %)	12.20
Interest on Working Capital	36.16

Capital Cost

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

12. The details of capital cost as on COD, as on 31.3.2019 and projected Additional Capital Expenditure (ACE) in 2014-19 period admitted by the Commission vide order dated 28.4.2020 in Petition No. 49/TT/2019 are as follows:

(₹ in lakh)

Particulars	Apportioned Approved Cost (FR)	Capital Cost allowed as on COD	ACE	Total Capital Cost as on 31.3.2019
			2018-19	
Transmission Asset	21556.97	13945.22	2916.33	16861.55

13. The Petitioner vide Auditor's Certificate dated 30.7.2019 has submitted capital cost as on COD, ACE incurred or projected to be incurred in respect of the transmission assets and the same are as follows:

(₹ in lakh)

Particulars	Apportioned Approved Cost (FR)	Capital Cost as on COD	ACE	Total Capital Cost as on 31.3.2019
			2018-19	
Transmission Asset	21556.97	15163.67	1945.87	17109.54

14. The Petitioner has claimed capital cost of ₹15163.67 lakh in respect of the transmission asset as on COD. The total completion cost including ACE in respect of the transmission asset is ₹17109.54 lakh against FR approved cost of



₹21556.97 lakh.

15. We have considered the submissions of the Petitioner. The estimated completion cost including ACE is within the FR apportioned approved cost. Therefore, there is no cost over-run.

16. The SCOD of the transmission asset was 2.12.2018 against which it was put into commercial operation on 27.9.2018. Thus, there is no time over-run in achieving COD of the transmission asset.

Central Finance Assistance (CFA)

17. In respect of Central Finance Assistance (CFA), the Petitioner has made the following submissions:

- a) CFA for development of Solar Park and external transmission system has been provided by the Ministry of New and Renewable Energy (MNRE). MNRE (NSM Coord. Group) issued Administrative Guidelines for release of fund for implementation of Scheme for development of Solar Park and Ultra Mega Solar Power projects vide order ref: 30/26/2014-15/NSM, dated 12.12.2014. MNRE has issued amendment in guidelines vide Office Memorandum No. F. No. 30/26/2014-15/NSM dated 29.9.2016. The relevant extracts of the same are as follows:

“The CFA for development of solar park and for development of external transmission system will be apportioned in the ratio of 60:40 i.e. Rs. 12 lakh per MW or 30% of the project cost, whichever is lower may be provided to the Solar Power Park Developers (SPPDs) towards development of solar parks and Rs.8 lakh per MW or 30% of the project cost, whichever is lower will be provided to the CTU or STU towards development of external transmission system.....”

- b) Accordingly, the Petitioner vide letters dated 27.10.2016 and 28.12.2016 has submitted the details for release of CFA by MNRE to it.



- c) MNRE vide Office Memorandum (O.M.). No F. No. 30/52/2014-15/NSM dated 28.2.2017 sanctioned CFA grant. The relevant extracts of O.M. is reproduced below:

"2. I am also directed to convey approval for setting up external power evacuation system for Pavagada Solar Park, Tumkur, Karnataka by PGCIL for evacuation of 1000 MW solar power from Pavagada Solar Park, Tumkur, Karnataka with total Central Finance Assistance (CFA) of Rs.80,00,00,000/- (Rupees Eighty Crores only).

3. As per Administrative Guidelines 30/26/2014-15/NSM, dated 12.12.2014 and subsequent clarification vide OM no. 30/26/2014-15/NSM dated 29.09.2016, an amount of Rs.40,28,00,000/- (Rupees Forty Crore Twenty-Eight Lakh only) is due to SECI, New Delhi towards award of work for external power evacuation system of Pavagada Solar Park, Karnataka. The amount of Rs.40,28,00,000/- (Rupees Forty Crore Twenty Eight Lakh only) includes Rs.40,00,00,000/- (Rupees Forty Crore only) towards development of external power evacuation system Phase-I of Pavagada Solar Park, Karnataka and Rs.28,00,000/- (Rupees Twenty Eight Lakh only) towards fund handling charges to SECI.

4. Accordingly, sanction of the President of India is hereby conveyed for release of Rs.28,28,00,000/- (Rupees Twenty Eight Crore Twenty Eight Lakh only) to Solar Energy Corporation of India (SECI), New Delhi after adjusting Rs.12,00,00,000/- (Rupees Twelve Crore only) of excess amount of CFA released to Karnataka Solar Park Corporation Ltd. (KSPDCL) for development of internal infrastructure of Pavagada Solar Park, Karnataka by this Ministry under the Solar Park scheme, KSPDCL will release Rs.12,00,00,000/- (Rupees Twelve Crore only) to PGCIL as CFA towards development of external power evacuation system of Solar Park."

- d) The Petitioner applied for grant under Phase-I based on capacity of 1000 MW @ ₹800,000 per MW (total ₹8000 lakh). 50% (₹4000 lakh per MW) of the grant applied was released by MNRE through SECI, of which ₹2800 lakh was received on 18.10.2017, ₹1200 lakh on 31.1.2018 and ₹4000 lakh on 16.10.2019 towards Transmission System for Ultra mega Solar Power Park at Tumkur (Pavagada), Karnataka-Phase-I.
- e) The details of total grant received and adjustment of the same in the capital cost of projects are as follows:



(₹ in lakh)

Total CFA grant	CFA grant received (30.8.2017)	CFA grant received (31.1.2018)	CFA grant received (16.10.2019)	Total
8000.00	2800.00	1200.00	4000.00	8000.00

- f) The details of total grant allocated in respect of the transmission asset covered under the instant transmission project are as follows:

(₹ in lakh)

COD	Till COD	During 2017-18	During 2018-19	During 2019-20	Total
27.9.2018	1054.07	0.00	0.00	1054.08	2108.15

18. Proviso to clause (d) of Regulation 9(6) of the 2014 Tariff Regulations provides as follows:

“Provided that 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 shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation.”

19. Proviso (iii) of Regulation 19(1) of the 2014 Tariff Regulations provides as follows:

“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.”

20. We have considered the submissions of the Petitioner. As per the above provisions, funding through grant is not required to be considered for the purpose of debt-equity ratio.

Interest During Construction (“IDC”)

21. The Petitioner has claimed IDC in respect of the transmission asset and has submitted the Auditor’s Certificate dated 30.7.2019 in support of the same. The Petitioner has submitted computation of IDC along with year-wise details of IDC discharged.



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

23. Accordingly, based on the information furnished by the Petitioner, IDC considered in respect of the transmission asset is as follows:

					(₹ in lakh)
IDC as per Auditor's Certificate	IDC Admissible	IDC disallowed due to computational difference	IDC Discharged as on COD	IDC Undischarged as on COD	IDC Discharged During
					2018-19
A	B	C=(A-B)	D	E=(B-D)	F
810.37	810.37	0.00	645.99	164.38	140.07

Incidental Expenditure During Construction ("IEDC")

24. The Petitioner has claimed IEDC of ₹801.38 lakh in respect of the transmission asset and has submitted Auditor's Certificate in support of the same. The Petitioner has also submitted that entire IEDC has been discharged as on COD in respect of the transmission asset.

25. The Commission vide order dated 28.4.2020 in Petition No. 49/TT/2019 has allowed IEDC subject to reconsideration in the light of directions of the Appellate Tribunal for Electricity (APTEL) in judgment dated 2.12.2019 in Appeal No. 95 of 2018 and Appeal No. 140 of 2018, at the time of truing up. We have now considered the Petitioner's claim with respect to IEDC after applying prudence check and taking into consideration the above said judgment of APTEL. IEDC



claimed by the Petitioner is within the percentage of the hard cost and the same is accordingly allowed.

Initial Spares

26. Initial Spares are provided in Regulation 13(d) of the 2014 Tariff Regulations subject to the following norms:

“(d) Transmission system

- (i) Transmission line – 1.00%
- (ii) Transmission Sub-station (Green Field) – 4.00%
- (iii) Transmission Sub-station (Brown Field) – 6.00%
- (iv) Series Compensation devices and HVDC Station – 4.00%
- (v) Gas Insulated Sub-station (GIS) – 5.00%
- (vi) Communication system – 3.5%

.....”

27. The Petitioner has claimed the following Initial Spares for the transmission asset:

Particulars	Estimated Completion Cost (A)	Initial Spares Claimed (B)	Ceiling (in %) (C)	Initial Spares Worked Out
				$D = [(A-B)*C/(100-C)]$
Sub-station (Green field)	2234.28	32.96	4%	91.72
Transmission Line	14734.50	143.00	1%	147.39

28. We have considered the submissions of the Petitioner. Initial Spares claimed by the Petitioner are within the norms. Initial Spares allowed for the purpose of tariff calculation considering the plant and machinery cost excluding IDC, IEDC and land expenses up to 31.3.2019 is as follows:

Plant & Machinery cost considered as on cut-off date (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2014 Tariff Regulations (in %)	Initial Spares allowable as per 2014 Tariff Regulations (₹ in lakh)	Initial Spares allowed (₹ in lakh)	Initial Spares discharged as on COD (₹ in lakh)
2234.28	32.96	4.00	91.72	32.96	16.05
14734.50	143.00	1.00	147.39	143.00	69.63

29. The Petitioner has not submitted Form-13 along with the petition. As in the



case of similar other matters, regarding treatment of Initial Spares, we have considered that the capital cost claimed as on COD and up to 31.3.2019 through Auditor's Certificate is inclusive of adjustment of un-discharged and discharged liabilities. In the instant petition, Initial Spares are allowed as per APTEL's judgment dated 14.9.2019 in Appeal No. 74 of 2017. However, the Petitioner is directed to submit the details of the un-discharged/ discharged liabilities of Initial Spares at the time of truing-up of 2019-24 tariff period. If any adjustment is required in respect of un-discharged/ discharged liabilities of Initial Spares, the same shall be carried out at the time of truing up of tariff for 2019-24 period.

Capital Cost allowed as on COD

30. Accordingly, the details of capital cost approved in respect of transmission asset as on COD after adjustment of IDC, IEDC and Initial Spares are as follows:

(₹ in lakh)			
Capital Cost as on COD as per Auditor's Certificate	Less: Grant Received and adjusted up to COD	Less: Un-discharged IDC	Capital Cost as on COD (on cash basis)
15163.67	1054.07	164.38	13945.22

Additional Capital Expenditure ("ACE")

31. The Commission vide order dated 28.4.2020 in Petition No. 49/TT/2019 allowed the ACE of ₹2916.33 lakh in respect of the transmission asset for 2014-19 tariff period. The Petitioner has claimed the ACE of ₹2085.94 lakh after adjustment of IDC and IEDC, Initial Spares and liability in respect of the transmission asset covered in the instant petition.

32. The Petitioner has submitted that ACE during 2014-19 tariff period has been claimed under Regulations 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff



Regulations and the same is within the cut-off date. The Petitioner has submitted Auditor's Certificate in support of the same. The Petitioner vide affidavit dated 28.6.2021 has submitted liability flow statement.

33. We have considered the submissions of Petitioner. The un-discharged IDC as on COD has been allowed as ACE during the year of its discharge. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and Regulation 14(1)(ii) of the 2014 Tariff Regulations which pertain to un-discharged liabilities recognized to be payable at a future date. Accordingly, ACE allowed in respect of the transmission asset for 2014-19 tariff period is as follows:

(₹ in lakh)	
Particulars	2018-19
Balance & Retention Payment	301.95
Unexecuted Work	1643.92
IDC Discharged	140.07

34. Capital cost allowed as on 31.3.2019 after inclusion of ACE in respect of the transmission asset is as follows:

(₹ in lakh)		
Capital cost on cash basis as on COD	2018-19	Total Capital cost including ACE as on 31.3.2019
13945.22	2085.93	16031.16

Debt-Equity Ratio

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



Funding	Amount as on COD (₹ in lakh)	(in %)	Amount as on 31.3.2019 (₹ in lakh)	(in %)
Debt	9761.65	70.00	11221.81	70.00
Equity	4183.57	30.00	4809.35	30.00
Total	13945.22	100.00	16031.16	100.00

Depreciation

36. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during 2014-19 tariff period. The Gross Block during 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is given at Annexure-I. WAROD has been worked out considering the depreciation rates of asset as prescribed in the 2014 Tariff Regulations and depreciation allowed in respect of the transmission asset during 2014-19 tariff period is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 186 days)
Opening Gross Block	13945.23
ACE	2085.93
Closing Gross Block	16031.16
Average Gross Block	14988.20
Weighted average rate of Depreciation (WAROD) (in %)	5.29
Aggregated Depreciable Value	13489.38
Depreciation during the year	403.83
Remaining Aggregated Depreciable Value	13085.55

37. The details of depreciation allowed in respect of the transmission asset vide order dated 28.4.2020 in Petition No. 49/TT/2019, as claimed by the Petitioner in the instant petition and as trued up in the instant order are as follows:



(₹ in lakh)

Particulars	2018-19 (Pro-rata for 186 days)
Allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019	414.92
Claimed by the Petitioner in the instant petition	405.09
Approved after true-up in this order	403.83

Interest on Loan (“IoL”)

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

(₹ in lakh)

Particulars	2018-19 (Pro-rata for 186 days)
Gross Normative Loan	9761.65
Cumulative Repayments up to Previous Year	0.00
Net Loan-Opening	9761.65
Addition due to ACE	1460.15
Repayment during the year	403.83
Net Loan-Closing	10817.98
Average Loan	10289.82
Weighted Average Rate of Interest on Loan (in %)	8.121
Interest on Loan	425.82

39. The details of IoL approved in respect of the transmission asset vide order dated 28.4.2020 in Petition No. 49/TT/2019, as claimed by the Petitioner in the instant petition and trued up in this order are as follows:

(₹ in lakh)

Particulars	2018-19 (Pro-rata for 186 days)
Allowed vide order dated 28.4.2020 in Petition No.49/TT/2019	446.92
Claimed by the Petitioner in the instant petition	425.79
Approved after true-up in this order	425.82

Return on Equity (“RoE”)

40. The Petitioner has submitted that RoE has been calculated at the rate of 20.610% after grossing up RoE with MAT rate of 20.961% as per the 2014 Tariff



Regulations. The Petitioner has further submitted that grossed up RoE is subject to truing up based on the effective tax rate of respective financial year applicable to it.

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

Year	Claimed effective tax (in %)	Grossed up RoE (in %) [(Base Rate)/(1-t)]
2018-19	21.549	19.758

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

Year	Notified MAT rates (in %) (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

43. MAT rates as allowed vide order dated 27.4.2020 in Petition No. 274/TT/2019 for the purpose of grossing up of rate of RoE for truing up of the tariff of 2014-19 period are considered in the present case which are as follows:

Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Grossed-up RoE (in %) [(Base Rate)/(1-t)]
2018-19	21.549	19.758

Additional RoE

44. The Petitioner claimed additional RoE of 0.5% for completion of the



transmission asset within the timeline specified in Regulation 24 of the 2014 Tariff Regulations. As the transmission asset was completed within 38 months of timeline specified for 400 kV D/C Quad Transmission Line, the transmission line was granted additional RoE of 0.5% in order dated 28.4.2020 in Petition No.49/TT/2019. The same is allowed in this order. Accordingly, true up RoE allowed in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 186 days)
Opening Equity	4183.57
Addition due to ACE	625.78
Closing Equity	4809.35
Average Equity	4496.46
Return on Equity (in %)	16.000
Tax Rate applicable (in %)	21.549
Rate of Return on Equity (Pre-tax)	20.395
Return on Equity (Pre-tax)	467.32

45. The details of RoE allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019, claimed by the Petitioner in the instant petition and true up in the instant order are as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 186 day)
Allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019	476.69
Claimed by the Petitioner in the instant petition	467.32
Approved after true-up in this order	467.32

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

46. The details of O&M Expenses claimed by the Petitioner in respect of the transmission asset and allowed under Regulation 29(4)(a) of the 2014 Tariff Regulations for the purpose of tariff computation are as follows:



(₹ in lakh)

Particulars	2018-19 (Pro-rata for 186 days)
Sub-station	
400 kV bays at Pavagada and Hiriyr Sub-station	4 Numbers
Norm (₹ lakh/ bay)	
400 kV	68.71
Total Sub-station	274.84
Transmission Line	
400 kV D/C Line Bundled conductor	109.35 km
₹ lakh/ km	0.806
Total Transmission Line	88.14
Total O&M Expenses claimed	184.95
Total O&M Expenses allowed	184.97

47. The details of O&M Expenses approved vide order dated 28.4.2020 in Petition No. 49/TT/2019, claimed by the Petitioner in the instant petition and trued up O&M Expenses allowed in the instant order are as follows:

(₹ in lakh)

Particulars	2018-19 (Pro-rata for 186days)
Allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019	184.91
Claimed by the Petitioner in the instant petition	184.95
Approved after true-up in this order	184.97

Interest on Working Capital (“IWC”)

48. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations.

49. The trued up IWC allowed in respect of the transmission asset is as follows:

(₹ in lakh)

Particulars	2018-19 (Pro-rata for 186 days)
Working Capital for O&M Expenses (O&M Expenses for one month)	30.25
Working Capital for Maintenance Spares (15% of O&M Expenses)	54.45
Working Capital for Receivables (Equivalent to two months of annual fixed cost /annual transmission charges)	496.50
Total Working Capital	581.19
Rate of Interest on working capital (in %)	12.20
Interest on working Capital	36.13



50. The details of IWC approved vide order dated 28.4.2020 in Petition No. 49/TT/2019, as claimed by the Petitioner and trued up IWC allowed in the instant order is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata for 186 days)
Allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019	36.99
Claimed by the Petitioner in the instant petition	36.16
Approved after true-up in this order	36.13

Approved Annual Fixed Charges for 2014-19 Tariff Period

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

(₹ in lakh)	
Particulars	2018-19 (Pro-rata for 186 days)
Depreciation	403.83
Interest on Loan	425.82
Return on Equity	467.32
Operation and Maintenance Expenses	184.97
Interest on Working Capital	36.13
Total	1518.07

52. Accordingly, AFC allowed vide order dated 28.4.2020 in Petition No. 49/TT/2019, trued up AFC claimed by the Petitioner in the instant petition and trued up AFC approved in the instant order are as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata for 186 days)
Allowed vide order dated 28.4.2020 in Petition No.49/TT/2019	1560.43
Claimed by the Petitioner in the instant petition	1519.31
Approved after true-up in this order	1518.07

DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

53. The Petitioner has claimed the following transmission charges in respect of



the transmission asset for 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	862.17	874.29	874.29	874.29	874.29
Interest on Loan	859.34	800.87	729.36	657.81	586.06
Return on Equity	915.72	928.15	928.15	928.15	928.15
Interest on Working Capital	49.59	49.54	48.82	48.11	47.29
O&M Expenses	227.78	235.69	243.87	252.31	261.03
Total	2914.60	2888.54	2824.49	2760.67	2696.82

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	18.98	19.64	20.32	21.03	21.75
Working Capital for Maintenance Spares (15% of O&M Expenses)	34.17	35.35	36.58	37.85	39.15
Working Capital for Receivables (Equivalent to two months of annual fixed cost /annual transmission charges)	358.35	356.12	348.22	340.36	331.58
Total Working Capital	411.50	411.11	405.12	399.24	392.48
Rate of Interest on working capital (in %)	12.05	12.05	12.05	12.05	12.05
Interest on working Capital	49.59	49.54	48.82	48.11	47.29

Capital Cost

55. 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 Asset-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, forco-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.”

(5) The following shall be excluded from the capital cost of the existing and new projects:

- (a) The Asset-forming part of the project, but not in use, as declared in the



tariff petition;

(b) De-capitalised Asset-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 asset.

(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 following capital cost as on 1.4.2019 for the transmission asset:

Apportioned approved cost as per FR	Expenditure as on 31.3.2019 after grant adjustment	Projected ACE 2019-24 (As per Auditor's Certificate)		Cost as on 31.3.2024
		2019-20	Less: Grant adjustment	
		21556.97	16055.47	

57. The capital cost worked out by the Commission as on 31.3.2019 is ₹16031.16 lakh and the same has been considered as opening capital cost as on 1.4.2019 in respect of the transmission asset for determination of tariff for 2019-24 tariff period in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital Expenditure (“ACE”)

58. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provide as follows:

“24. Additional Capitalization within the original scope and up to 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 ACE 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 cutoff 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

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”

59. The Petitioner has claimed projected ACE of ₹1470.99 lakh for the year 2019-20 on account of balance and retention payments due to un-discharged liability projected for works executed within the cut-off date (31.3.2021) under Regulations 24(1)(b) of the 2019 Tariff Regulations and ₹24.31 lakh on account of accrued IDC discharged. The Petitioner has submitted Auditor's Certificate in support of the same.

60. We have considered the submissions of the Petitioner. ACE claimed on account of undischarged liability projected for works executed within the cut-off date and accrued IDC discharge are allowed under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. ACE allowed in respect of the transmission asset is as follows:

Particulars	ACE of Transmission Asset (₹ in lakh)
Un-discharge Liability	1470.99
IDC Discharge	24.31
Total	1495.30

Capital Cost for 2019-24 Tariff Period

61. Regulation 19(5) (e) of the 2019 Tariff Regulations provides for exclusion of grant received from the Central or State Government or any statutory body or



authority for execution of the project which does not carry any liability of repayment. We have observed above in this order that funding through grant is not required to be considered for debt-equity ratio. Therefore, funding and any grant would form remaining capital structure for the purpose of debt: equity ratio as per the 2019 Tariff Regulations. Funding on account of Central Finance Assistance (CFA) amounting to ₹1054.08 lakh as affirmed by the Petitioner above in respect of the transmission asset is not considered for the purpose of debt: equity ratio and accordingly the capital cost is determined.

62. Capital cost of the transmission asset considered for 2019-24 tariff period is as follows:

(₹ in lakh)				
Capital Cost as on 1.4.2019	Admitted ACE (A)	Less: Grant received during 2019-20 (B)	Net ACE (C)=(A-B)	Capital Cost as on 31.3.2024
	2019-24			
16031.16	1495.30	1054.08	441.23	16472.39

Debt-Equity Ratio

63. Regulation 18 of the 2019 Tariff Regulations provides as follows:

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

Provided that:

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

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up



capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

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

(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 the debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.

(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”

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



Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	11221.81	70.00	11530.67	70.00
Equity	4809.35	30.00	4941.71	30.00
Total	16031.16	100.00	16472.38	100.00

Depreciation

65. Regulation 33 of the 2019 Tariff Regulations provides as follows:

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

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

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

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

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

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

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case



may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the Asset-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 asset”

6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of-

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or*
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or*
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit*



thereof has completed its useful life”

66. We have considered the submissions of the Petitioner. WAROD has been worked out and placed as Annexure-II considering the depreciation rates as prescribed in the 2019 Tariff Regulations. Depreciation has been worked out considering ACE as on 31.3.2019 and accumulated depreciation up to 31.3.2019. Depreciation allowed in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	16031.16	16472.39	16472.39	16472.39	16472.39
Addition during the year 2019-24 due to projected ACE	441.23	0.00	0.00	0.00	0.00
Closing Gross Block	16472.39	16472.39	16472.39	16472.39	16472.39
Average Gross Block	16251.78	16472.39	16472.39	16472.39	16472.39
Weighted Average Rate of Depreciation (WAROD) (in %)	5.31	5.31	5.31	5.31	5.31
Lapsed useful life at the beginning of the year (Year)	0.00	1.00	2.00	3.00	4.00
Balance useful life at the beginning of the year (Year)	34	33	32	31	30
Aggregated Depreciable Value	14629.46	14828.31	14828.31	14828.31	14828.31
Depreciation during the year	862.16	874.31	874.31	874.31	874.31
Aggregate Cumulative depreciation at the end of the year	1265.99	2140.29	3014.60	3888.91	4763.21
Remaining Aggregate Depreciable Value at the end of the year.	13363.47	12688.02	11813.71	10939.41	10065.10

Interest on Loan (“IoL”)

67. Regulation 32 of the 2019 Tariff Regulations provides as follows:

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

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



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

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

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

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

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

(5a) The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.

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

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

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



(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	11221.81	11530.67	11530.67	11530.67	11530.67
Cumulative Repayments up to Previous Year	403.83	1265.99	2140.29	3014.60	3888.91
Net Loan-Opening	10817.98	10264.68	9390.37	8516.07	7641.76
Addition due to ACE	308.86	0.00	0.00	0.00	0.00
Repayment during the year	862.16	874.31	874.31	874.31	874.31
Net Loan-Closing	10264.68	9390.37	8516.07	7641.76	6767.46
Average Loan	10541.33	9827.52	8953.22	8078.91	7204.61
Weighted Average Rate of Interest on Loan (in %)	8.153	8.150	8.147	8.143	8.136
Interest on Loan	859.44	800.97	729.46	657.91	586.16

Return on Equity (“RoE”)

69. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide as follows:

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

(2) *Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of- river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of-river generating station with pondage:*

Provided that return on equity in respect of Additional Capitalization after cut- off date beyond the original scope excluding Additional Capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%;

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii.in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based



on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

- a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
- b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

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

(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%;

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

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

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

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

Illustration-

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



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

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

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

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

70. The Petitioner has submitted that MAT rate is applicable to it. MAT rate applicable in 2019-20 has been considered for the purpose of RoE which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	4809.35	4941.71	4941.71	4941.71	4941.71
Addition due to ACE	132.37	0.00	0.00	0.00	0.00
Closing Equity	4941.71	4941.71	4941.71	4941.71	4941.71
Average Equity	4875.53	4941.71	4941.71	4941.71	4941.71
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax) (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity (Pre-tax)	915.72	928.15	928.15	928.15	928.15

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

71. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:



“35 (3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the Asset transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
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



<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i>	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double
Circuit quad AC line;*
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (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 (2000MW);*
- 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.”*

72. O&M Expenses claimed by the Petitioner in respect of the transmission asset are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV Sub-station bays (4 numbers)	128.60	133.12	137.80	142.64	147.64
400 kV Hiryur-Tumkur D/C Transmission Line (109.350 km)	96.34	99.73	103.23	106.83	110.55
PLCC	2.84	2.84	2.84	2.84	2.84
Total	227.77	235.68	243.86	252.31	261.03

73. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulation @2% of its original project cost in the instant petition. 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 the 2019 Tariff Regulations and norms for Sub-station have 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.

74. O&M Expenses in respect of the transmission asset for 2019-24 tariff period have been worked out as per the norms specified in the 2019 Tariff Regulations



and the same are allowed as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station Bays	128.60	133.12	137.80	142.64	147.64
Transmission Line	96.34	99.73	103.23	106.83	110.55
PLCC	0.00	0.00	0.00	0.00	0.00
Total	224.94	232.85	241.03	249.47	258.19

Interest on Working Capital (“IWC”)

75. Regulation 34(1)(c), Regulation 34(3) and Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations provide as follows:

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

.....

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

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

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

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

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

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

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

“3. 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;”

76. The Petitioner has submitted that it has computed IWC for 2019-24 period



considering SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, for 2020-21 it has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas 2021-22 onwards it has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon in respect of the transmission asset for 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	18.74	19.40	20.09	20.79	21.52
Working Capital for Maintenance Spares (15% of O&M Expenses)	33.74	34.93	36.15	37.42	38.73
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges).	358.00	355.36	347.09	339.23	330.47
Total Working Capital	391.74	390.29	383.25	376.66	369.20
Rate of Interest on Working Capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest on working Capital	49.46	46.09	42.35	41.73	41.03

Annual Fixed Charges for 2019-24 Tariff Period

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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	862.16	874.31	874.31	874.31	874.31
Interest on Loan	859.44	800.97	729.46	657.91	586.16
Return on Equity	915.72	928.15	928.15	928.15	928.15
Operation and Maintenance	224.94	232.85	241.03	249.47	258.19



Interest on Working Capital	49.46	46.09	42.35	41.73	41.03
Total	2911.73	2882.36	2815.30	2751.57	2687.83

Filing Fee and Publication Expenses

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

79. 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.

License Fee and RLDC Fees and Charges

80. TANGEDCO has submitted that the Petitioner is not entitled to claim license fee from the beneficiaries as the parties here are on commercial terms. TANGEDCO has further submitted that the Petitioner being a Government owned Company cannot be permitted to put every financial burden upon the beneficiaries and also cannot take advantage of its dominant and monopolistic presence in the industry and claim each and every thing from the beneficiaries.

81. In response, the Petitioner has submitted that fees and charges to be paid by the Petitioner as ISTS licensee under Central Electricity Regulatory Commission (Fees and Charges of RLDC and other matters) Regulations as amended from time to time shall also be recoverable from the DICs as provided under Regulation 70(3) of the 2019 Tariff Regulations.

82. We have considered the submissions of the Petitioner and TANGEDCO. 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.

Goods and Services Tax

83. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory Authorities, the same may be allowed to be recovered from the beneficiaries.

84. TANGEDCO has submitted that GST is not applicable to transmission services and hence, the same cannot be claimed from the beneficiaries retrospectively even if the tax is levied in future. TANGEDCO has further submitted that the Commission may direct the Petitioner to refrain from seeking GST in further tariff petitions to avoid wastage of resources and man hours which are also ultimately recovered from the beneficiaries. In response, the Petitioner has reiterated its submissions

85. We have considered the submissions of Petitioner and TANGEDCO. Since GST is not levied on transmission service at present, we are of the view that Petitioner's prayer is pre-mature.



Security Expenses

86. The Petitioner has submitted that security expenses in respect of transmission asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.

87. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses in respect of all the transmission assets owned by it on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission vide order dated 3.8.2021 wherein the Commission has approved the security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Capital Spares

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 Petitioner has prayed that transmission charges for 2014-19 period may be allowed to be recovered on monthly basis in accordance with Regulation 42 of the 2014 Tariff Regulations and may be shared by the Respondents in accordance



with Regulation 43 of the 2014 Tariff Regulations as per 2010 Sharing Regulations.

90. The Petitioner has prayed that tariff for 2019-24 period may be allowed to be recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and may be shared by the beneficiaries and long term transmission customers as per 2010 Sharing Regulations.

91. TANGEDCO has submitted that trued up capital cost for tariff period 2014-19 has to be shared amongst the beneficiaries as per the 2010 Sharing Regulations. The 2020 Sharing Regulations were notified on 4.5.2020, which came into effect on 1.11.2020. Therefore, yearly transmission charges (YTC) till 31.10.2020 should be shared as per the 2010 Sharing Regulations and from 1.11.2020, the transmission charges should be shared as per the 2020 Sharing Regulations. TANGEDCO has further submitted that the Commission should issue suitable directions to allocate the trued-up YTC as per both the Regulations.

92. In response, the Petitioner has submitted that tariff determination and sharing of transmission charges are two independent activities and same cannot be interlinked. After determination of tariff of the transmission assets by the Commission, the aspects of YTC bifurcation as raised by TANGEDCO shall be taken care of by CTU at the time of billing.

93. Referring to regulatory approval granted by the Commission vide order dated 19.8.2016 in Petition No. 36/MP/2016 for the transmission asset under the transmission project, TANGEDCO has submitted that transmission charges for the



period of delay in commissioning of the solar power generators has be borne by the solar generators. Relevant excerpts of the order dated 19.8.2016 are as follows:

“32.....

Therefore, transmission charges for delay in commissioning of solar power generators shall be payable by such generators/SPPD on the same line as the liability for payment by the thermal and hydro generating station in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

.....

8.2.2.....

Therefore, the transmission charges for delay in commissioning of solar power generators shall be paid by such solar generators/SPPD in accordance with the relevant regulation of the Commission”

94. TANGEDCO has submitted that regulatory approval order of the Commission makes commitment of the Petitioner to tie up about 400 MW solar power with other State beneficiaries and transmission charges liabilities till generators declare COD, will rest with solar generators/SPPDs. TANGEDCO has further submitted that in terms of the 2010 Sharing Regulations, the Petitioner is duty bound to recover the transmission charges from the generators who have not commissioned their projects on the date of commercial operation of the associated transmission system.

95. Referring to Regulation 7(1)(y) of the 2010 Sharing Regulation, TANGEDCO has submitted that waiver of certain category of RE generators is applicable only from COD of the generation projects. Relevant extracts of the said Regulation are as follows:

"(y) No transmission charges and losses for the use of ISTS network shall be payable for the capacity of the generation projects based on solar resources for a



period of 25 years from the **date of commercial operation** of the such generation projects if they fulfill the following conditions:

- i. Such generation capacity has been awarded through competitive bidding; and
- ii. Such generation capacity has been declared under commercial operation between 1.7.2017 and 31.12.2019; and
- iii. **Power Purchase Agreement(s) have been executed for sale of power from such generation capacity to the Distribution Companies for compliance of their renewable purchase obligation.**

96. TANGEDCO has further submitted that as per Regulation 8(6) of the 2010 Sharing Regulations, the generator is liable to pay the transmission charges till COD of the generating station. Regulation 8(6) of the 2010 Sharing Regulations provides as follows:

*“(6) For Long Term customers availing supplies from inter-state generating stations, the charges payable by such generators for such Long Term supply shall be billed directly to the respective Long Term customers based on their share of capacity in such generating stations. Such mechanism shall be effective only after **“commercial operation” of the generator. Till then, it shall be the responsibility of generator to pay these charges.**”*

97. TANGEDCO has also referred to the minutes of meeting of 38th Commercial Sub-Committee Meeting (CCM) of SRPC dated 29.6.2018 and 39th CCM dated 29.10.2018 wherein TANGEDCO requested CTU to share the information regarding actual COD of all the RE generators under the scheme. TANGEDCO has submitted that this issue was further discussed in 42nd CCM. The relevant excerpts of the said minutes of meeting are as follows:

“TANGEDCO stated that CTU may bring on record the details of bilateral billing details of other generators including RE generators who have not commissioned their projects after CoD of associated transmission projects. Further, TANGEDCO urged the forum to direct the CTU/SPPDs to share the SPD wise/generator wise details of CoD / PPA tie-up with beneficiaries so as to ascertain the LTA waiver granted to such RE generators.

Commercial Sub-Committee suggested PGCIL to collect all the details SPD wise/generator wise details of CoD / PPA tie-up with beneficiaries etc. for inclusion in RTA. SR-II, PGCIL agreed to furnish the details as and when received from CTU.”

98. TANGEDCO has submitted that the same matter was again discussed in the



43rd and 44th CCM. TANGEDCO has further submitted that the Petitioner is required to submit the following details:

- a) The generators which are eligible for waiver of transmission charges as per Regulation 7(1)(y) of the 2010 Sharing Regulations and relevant documents to establish their eligibility as per the said Regulations;
- b) Generator wise/SPD-wise COD covered under Phase-I of the transmission system (1000 MW);
- c) Details of recovery made so far from the generators who have not achieved COD on the date of commercial operation of the associated transmission system i.e. 27.9.2018; and
- d) Details of recovery to be made from the generators for the mismatch period and amount to be refunded to the beneficiaries.

99. In response, the Petitioner has refuted the averments of TANGEDCO and termed them as misleading. The Petitioner has submitted that in terms of Ministry of Power (MoP) order dated 13.2.2018, it was notified that for generation projects based on solar and wind resources, no inter-State transmission charges and losses shall be levied on the transmission of electricity through ISTS for sale of power by such projects commissioned till 31.3.2022 provided that:

- (i) the said waiver will be available for a period of 25 years from the date of commissioning of such projects,
- (ii) the above waiver will be available for solar and wind projects entering into Power Purchase Agreements (PPAs) with all entities, including distribution companies for sale of power from solar and wind power projects for compliance of their renewable purchase obligation; and
- (iii) the above waiver will be allowed only to those solar and wind projects that are awarded through competitive bidding process in accordance with the guidelines issued by Central Government.



100. The Petitioner has submitted letter dated 1.8.2018 of Karnataka Solar Power Development Corporation Limited (KSPDCL) wherein list of SPDs selected by NTPC Limited through competitive bidding in Pavagada Phase-I (along with their COD pertaining to 600 MW solar generation in Pavagada Solar Park) has been provided which is as follows:

Name of SPD	COD
Open Category	
Parampujya Solar Energy Private Limited (50 MW)	6.12.2017
Parampujya Solar Energy Private Limited (50 MW)	15.12.2017
Fortum Finnsurya Energy Private Limited (50 MW)	2.12.2017
Fortum Finnsurya Energy Private Limited (50 MW)	5.12.2017
ACME Rewari Solar Power Private Limited (50 MW)	31.1.2018
ACME Kurukshetra Solar Energy Private Limited (50 MW)	31.1.2018
Renew Wind Energy (TN2) Private Limited (50 MW)	14.12.2017
Yarrow Infrastructure Private Limited (50 MW)	14.12.2017
Tata Power Renewable Energy Limited (50 MW)	14.12.2017
Tata Power Renewable Energy Limited (50 MW)	14.12.2017
DCR Category	
Tata Power Renewable Energy Limited (50 MW)	28.12.2017
Parampujya Solar Energy Private Limited (50 MW)	3.1.2018

101. The Petitioner has submitted that vide letter dated 11.4.2016, it informed KSPDCL that grant of connectivity of 2000 MW for the proposed Solar Power Park at Pavagada, Tumkur District, Karnataka was granted to it. The said grant of connectivity to KSPDCL was revised by the Petitioner vide letter dated 25.1.2017.

102. The Petitioner has submitted that vide letter dated 5.9.2018, it had informed KSPDCL that LTA granted for Phase-I of Pavagada Solar Park (1000 MW) included LILO of 400 kV Gooty-Tumkur (Vasanthapura) D/C line and LILO of Bellary Pool-Tumkur (Vasanthapura) 400 kV (quad) D/C line at Tumkur (Pavagada) alongwith 3x500 MVA transformers at Tumkur (Pavagada) Sub-station. In view of above, part LTA of 600 MW of Phase-I was made effective with effect from 12.7.2018 to transfer power to Karnataka DISCOMS on firm basis with balance 400 MW made effective with effect from 28.9.2018 as per terms and conditions of LTA intimation in line with the Central



Electricity Regulatory Commission (Grant of Connectivity, Long Term Access and Medium Term Open Access in inter-State Transmission System and related matters) Regulations, 2009 and amendments related thereto.

103. The Petitioner has further submitted that billing for mismatch period for the commissioning of Phase-I generation and associated transmission system has been done to KSPDCL as per the 2010 Sharing Regulations and thereafter from 1.11.2020 onwards it shall be done as per the 2020 Sharing Regulations.

104. We have considered the submissions of the Petitioner and TANGEDCO. We feel it appropriate to refer here relevant extracts of the regulatory approval granted by the Commission vide order dated 19.8.2016 in Petition No. 36/MP/2016 and the same are as follows:

“32. With regard to recovery of transmission charges on account of delay in commissioning of solar generation, in the Statement of Reasons for the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-state Transmission and related matters) (Fifth Amendment) Regulations, 2015, and Central Electricity Regulatory Commission (Grant of Regulatory Approval for execution of Inter-State Transmission Scheme to Central Transmission Utility) (First Amendment) Regulations, 2015, the following has been clarified:

8.2.1 With regard to the suggestions of PGCIL, it is clarified that SPPD who shall apply for Connectivity/Long term Access shall be liable to deposit Application Bank Guarantee/Construction Bank Guarantee as required under Connectivity Regulation. Further, SPPD shall also be liable for payment of transmission charges for delay in commissioning of generator and relinquishment charges towards transmission access under Connectivity Regulations and Sharing Regulations. Regulation 7(1)(u) of the Sharing Regulations provides that "No transmission charges for the use of ISTS network shall be charged to solar based generation" is applicable only when the power is evacuated through the transmission system to the beneficiaries after the commercial operation of the generating station. Therefore, transmission charges for delay in commissioning of solar power generators shall be payable by such solar generators/SPPD on the same line as the liability for payment by the thermal and hydro generating station in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

8.2.2 With regard to delay of internal system, it is clarified that SPPD shall be executing internal system on behalf of solar power generators. The treatment of delay or other modalities should be covered in Agreement between solar power generators and SPPD. In regard to NTPC's comments on development of transmission matching with generation,



it is clarified that CTU shall carry out coordination with the SPPD/solar power generators in accordance with Section 38 of the Act.

Therefore, the transmission charges for delay in commissioning of solar power generators shall be paid by such solar generators/SPPD in accordance with the relevant regulation of the Commission.”

105. Further, Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations provides as follows:

“(5) Where the Approved Withdrawal or Approved Injection in case of a DIC is not materializing either partly or fully for any reason whatsoever, the concerned DIC shall be obliged to pay the transmission charges allocated under these regulations:

Provided that in case the commissioning of a generating station or unit thereof is delayed, the generator shall be liable to pay Withdrawal Charges corresponding to its Long term Access from the date the Long Term Access granted by CTU becomes effective. The Withdrawal Charges shall be at the average withdrawal rate of the target region:

Provided further that where the operationalization of LTA is contingent upon commissioning of several transmission lines or elements and only some of the transmission lines or elements have been declared commercial, the generator shall pay the transmission charges for LTA operationalised corresponding to the transmission system commissioned:

Provided also that where the construction of dedicated transmission line has been taken up by the CTU or the transmission licensee, the transmission charges for such dedicated transmission line shall be payable by the generator as provided in the Regulation 8 (8) of the Connectivity Regulations:

Provided also that a generating station drawing start-up power or injecting infirm power before commencement of LTA shall be liable to pay the withdrawal or injection charges corresponding to the actual injection of infirm power or withdrawal start-up power during a month (concerned month) and the amount received on account of such payments shall be reimbursed to the DICs in the month following the month of billing, in proportion to the billing of the DICs during the concerned month.

Provided also that CTU shall maintain a separate account for the above amount received in a quarter and deduct the same from the transmission charges of ISTS considered in PoC calculation for the next application period.

(6) For Long Term Transmission Customers availing power supply from inter-State generating stations, the charges attributable to such generation for long term supply shall be calculated directly at drawal nodes as per methodology given in the Annexure-I. Such mechanism shall be effective only after commercial operation of the generator. Till then it shall be the responsibility of the generator to pay transmission charges.”



106. We observe that out of the total LTA of 2000 MW, 1000 MW was to be implemented under Phase-I and remaining under Phase-II. All the transmission assets covered under Phase-I were put into commercial operation without any time over-run. We further observe from the minutes of meeting of 30th JCC of Generation Projects granted LTA in SR held on 29.6.2020 that approximately 600 MW generation capacity was commissioned within SCOD, while balance 400 MW was commissioned after SCOD. As solar generation of 1000 MW under Phase-I of solar park achieved COD on different dates the only issue which arises for our consideration in this petition is what proportion of transmission charges will be included in the common pool and what proportion of transmission charges is to be paid by the Solar Power Park Developer (KSPCPL). The transmission asset was put into commercial operation on 27.9.2018. Solar Park KPSPCPL is liable to pay the transmission charges as per the details given below in terms of the principle enunciated in the preceding para in line with the provisions contemplated under Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations.

COD of the Transmission Asset	Solar generation capacity commissioned	Date of commissioning of solar generation capacity	Liability of transmission charges
27.09.2018	600 MW	On various dates up to 27.09.2018 (i.e. before COD of the transmission asset)	Transmission charges proportionate to 600 MW shall be included in the common pool from 27.09.2018 to 19.12.2018, while transmission charges for 400 MW shall be borne by KSPDCL.
	50 MW	20.12.2018	Transmission charges proportionate to 650 MW shall be included in the common pool from 20.12.2018 to 03.02.2019, while transmission charges for 350 MW shall be borne by KSPDCL.



	100 MW	04.02.2019	Transmission charges proportionate to 750 MW shall be included in the common pool from 04.02.2019 to 05.02.2019, while transmission charges for 250 MW shall be borne by KSPDCL.
	100 MW	06.02.2019	Transmission charges proportionate to 850 MW shall be included in the common pool from 06.02.2019 to 21.02.2019, while transmission charges for 150 MW shall be borne by KSPDCL.
	50 MW	22.02.2019	Transmission charges proportionate to 900 MW shall be included in the common pool from 22.02.2019 to 26.02.2019, while transmission charges for 100 MW shall be borne by KSPDCL.
	50 MW	27.02.2019	Transmission charges proportionate to 950 MW shall be included in the common pool from 27.02.2019 to 28.02.2019, while transmission charges for 50 MW shall be borne by KSPDCL.
	50 MW	01.03.2019	From 01.03.2019, full transmission charges shall be included in the common pool.

107. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the 2010 Sharing Regulations. With effect from 1.11.2020 (after the repeal of the 2010 Sharing Regulations), sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and Sharing Regulations and shall be recovered from the concerned DICs through Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of transmission charges for subsequent period shall be governed in terms of the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.



108. To summarize,

(a) The trued-up AFC allowed in respect of the transmission asset for 2014- 19 tariff period are as follows:

Particulars	2018-19
	(Pro-rata for 186 days)
AFC	1518.07

(₹ in lakh)

(b) AFC allowed in respect of the transmission asset for 2019-24 tariff period in the instant order are as follows:

Particulars	2018-19				
	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	2911.73	2882.36	2815.30	2751.57	2687.83

(₹ in lakh)

109. Annexure-I and Annexure-II given hereinafter form part of the order.

110. This order disposes of Petition No. 653/TT/2020 in terms of the above discussions and findings.

sd/
(P. K. Singh)
Member

sd/
(Arun Goyal)
Member

sd/
(I. S. Jha)
Member

sd/
(P. K. Pujari)
Chairperson



Petition No.:	653/TT/2020
Period	2014-19 Tariff

Annexure –I

Transmission Asset

2014-19 Capital Expenditure as on COD	Admitted Capital Cost as on COD (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
		2018-19			2014-15	2015-16	2016-17	2017-18	2018-19 (₹ in lakh)
Transmission Line	12165.73	2061.52	14227.25	5.28	-	-	-	-	696.77
Sub-station	1652.17	23.04	1675.21	5.28	-	-	-	-	87.84
PLCC	102.03	1.02	103.05	6.33	-	-	-	-	6.49
IT Equipment & Software	25.31	0.35	25.66	15.00	-	-	-	-	3.82
TOTAL	13945.22	2085.93	16031.16		-	-	-	-	794.93
Average Gross Block (₹ in lakh)					-	-	-	-	14988.20
Weighted Average Rate of Depreciation (in %)					-	-	-	-	5.29%



Petition No.:	653/TT/2020
Period	2019-24 Tariff

Annexure - II

Transmission Asset

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
		2019-20			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Transmission Line	14227.25	39.70	14266.95	5.28	752.25	753.29	753.29	753.29	753.29
Sub-station	1675.21	356.83	2032.04	5.28	97.87	107.29	107.29	107.29	107.29
PLCC	103.05	38.73	141.78	6.33	7.75	8.97	8.97	8.97	8.97
IT Equipment & Software	25.66	5.97	31.63	15.00	4.30	4.74	4.74	4.74	4.74
TOTAL	16031.16	441.23	16472.39		862.16	874.31	874.31	874.31	874.31
Average Gross Block (₹ in lakh)					16251.78	16472.39	16472.39	16472.39	16472.39
Weighted Average Rate of Depreciation (in %)					5.31	5.31	5.31	5.31	5.31

