

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 461/TT/2020

Coram:

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

Date of Order: 01.07.2021

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for transmission asset NLC-Karaikal 230 kV D/C Line (through LILO of the 230 kV Neyveli-Bahour S/C line at Karaikal) under NLC-Karaikal 230 kV D/C line in Southern Region.

And in the matter of:

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

....Petitioner

Vs

1. Karnataka Power Transmission Corporation Ltd.
Kaveri Bhavan, K.G. Road,
Bangalore – 560 009.
2. Transmission Corporation of Andhra Pradesh Ltd.
Vidyut Soudha, Khairatabad,
Hyderabad– 500082.
3. Kerala State Electricity Board,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram – 695 004.



4. Tamil Nadu Generation and Distribution Corporation Ltd.,
(Formerly Tamil Nadu Electricity Board -TNEB)
NPKRR Maaligai, 800, Anna Salai Chennai – 600 002.
5. Electricity Department,
Government of Pondicherry,
Pondicherry – 605001.
6. Eastern Power Distribution Company of Andhra Pradesh Ltd.
APEPDCL, P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Ltd.
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati – 517 501, Chittoor District, Andhra Pradesh.
8. Central Power Distribution Company of Andhra Pradesh Ltd.
Corporate Office, Mint Compound,
Hyderabad – 500 063, Telangana.
9. Northern Power Distribution Company of Andhra Pradesh Ltd.
Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet,
Warangal – 506 004, Telangana.
10. Bangalore Electricity Supply Company Ltd.,
Corporate Office, K.R. Circle,
Bangalore – 560 001, Karnataka.
11. Gulbarga Electricity Supply Company Ltd.,
Station Main Road,
Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Ltd.,
Navanagar, PB Road,
HUBLI, Karnataka.
13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575 001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Ltd.,
927, L J Avenue, Ground Floor, New Kantharaj Urs Road,
Saraswatipuram, Mysore – 570 009, Karnataka.
15. Electricity Department,
Government of Goa, Vidyuti Bhawan,



Panaji, Goa 403001.

16. Transmission Corporation of Telangana Ltd.,
Vidhyut Sudha, Khairatabad,
Hyderabad – 500 082.
17. Tamil Nadu Transmission Corporation,
NPKRR Maaligai, 800, Anna Salai,
Chennai – 600 002.
18. Tamil Nadu Generation and Distribution Corporation Ltd.,
(Formerly Tamil Nadu Electricity Board -TNEB)
NPKRR Maaligai, 800, Anna Salai, Chennai – 600 002.
19. Neyveli Lignite Corporation Ltd.
P.O Neyveli
Cuddalore District, Tamil Nadu.

...Respondent(s)

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

For Respondents : Shri B. Vinodh Kanna, Advocate, TANGEDCO
Ms. R. Ramalakshmi, TANGEDCO
Dr. R. Kathiravan, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd., a deemed transmission licensee, for truing up of transmission tariff for the period from 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 determination of transmission tariff for the period 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”) for the transmission asset namely NLC-Karaikal 230 kV D/C Line

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(through LILO of the 230 kV Neyveli-Bahour S/C line at Karaikal) under NLC-Karaikal 230 kV D/C line in Southern Region.

2. The Petitioner has made the following prayers :

“1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the asset covered under this petition, as per para 12.2 and 13 above.

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

3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 10.2 and 11 above for respective block.

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

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

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

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

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

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

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



Backdrop of the case

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

(a) The Investment Approval (IA) for implementation of the transmission asset was accorded by the Board of Directors of the Petitioner company in its 330th meeting held on 20.7.2016 (communicated vide Memorandum Ref.: C/CP/PA1617-07-0A-IA001 dated 22.7.2016), at an estimated cost of ₹10279 lakh including IDC of ₹453 lakh, based on April, 2016 price level.

(b) The scope of the work as per Investment approval is as follows:

Transmission Line:

(i) NLC-Karaikal 230 kV D/C Line (through LILO of the 230 kV Neyveli-Bahour S/C line at Karaikal).

Note: In future as per the availability of bay at NLC, the 230 kV Karaikal Sub-station may directly be connected to NLC and 230 kV Neyveli-Bahour line may be restored.

(c) The entire scope of work as per IA is complete and covered in the instant petition.

(d) The Commission vide order dated 7.5.2019 in Petition No. 170/TT/2018 approved COD of the transmission asset as on 1.10.2018 under proviso (ii) to Regulation 4(3) of the 2014 Tariff Regulations. The relevant extracts of the order are as follows:

“16. In view of the above submissions, we approve the COD of the instant asset as 1.10.2018 under Proviso (ii) to Clause (3) of Regulation 4 of the 2014 Tariff Regulations. Accordingly, the cut-off date for the instant asset as per Clause (13) of Regulation 3 of the 2014 Tariff Regulations is 31.3.2021. Further, we agree with the submission of TANGEDCO and direct that the transmission charges for the period from 1.10.2018 to 19.12.2018 shall be borne by PED. Thereafter, the transmission charges from 20.12.2018 shall be governed as per the provisions in the 2010 Sharing Regulations.”

(e) The tariff of the transmission asset from COD to 31.3.2019 was allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018 as per the 2014 Tariff Regulations.

(f) The Annual Fixed Charges (AFC) allowed by the Commission vide order dated 7.5.2019 in Petition No. 170/TT/2018 and the trued-up tariff claimed by



the Petitioner in respect of the transmission asset for the 2014-19 period is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 182 days)
AFC approved vide order dated 7.5.2019 in Petition No. 170/TT/2018	510.03
AFC claimed by the Petitioner based on truing up in the instant petition	514.13*

**The Petitioner in the petition claimed ₹508.45 lakh but later revised its claim to ₹514.13 lakh vide affidavit dated 10.12.2020.*

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

5. The Petitioner has served the petition on the Respondents and notice of this application 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 Ltd. (TANGEDCO), i.e. Respondent No. 4, has filed reply in the matter vide affidavit dated 19.4.2021 and has raised issues of time over-run, effects of GST and sharing of transmission charges. The Petitioner vide affidavit dated 28.4.2021 has filed rejoinder to the reply of TANGEDCO. The issues raised by TANGEDCO and the clarifications submitted by the Petitioner are dealt in the relevant portions of the instant order.

6. The hearing in this matter was held on 20.4.2021 through video conference and order was reserved. The order is being passed taking into consideration the submissions made by the Petitioner in the petition dated 12.10.2019, the Petitioner's affidavit dated 10.12.2020, reply of TANGEDCO and Petitioner's rejoinder thereto.



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

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

8. 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 182 days)
Depreciation	153.82
Interest on Loan	154.79
Return on Equity	178.23
Interest on working capital	10.92
O & M Expenses	16.37
Total	514.13

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

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 182 days)
O&M expenses	2.74
Maintenance Spares	4.92
Receivables	171.85
Total	179.51
Rate of Interest (in %)	12.20
Interest on Working Capital	10.92

Capital Cost

10. The Commission vide order dated 7.5.2019 in Petition No. 170/TT/2018 allowed the capital cost of ₹5208.67 lakh as on COD and ₹6580.30 lakh as on 31.3.2019 of the transmission asset.

11. The Petitioner vide Auditor's Certificate dated 30.7.2019 has submitted the capital cost as on COD and ACE up to 31.3.2019 in respect of the transmission asset.



The details of FR approved capital cost, capital cost as on COD and ACE incurred up to 31.3.2019 as claimed by the Petitioner in respect of the transmission asset are as follows:

(₹ in lakh)			
Approved Cost (FR)	Actual Capital Cost as on COD (As per Auditor's Certificate)	ACE	Total Capital Cost as on 31.3 2019
		2018-19	
10278.63	5477.05	869.96	6347.01

Cost Over-run

12. The completion cost including ACE in respect of transmission asset is ₹6347.01 lakh and the approved FR cost is ₹10278.63 lakh. Hence, the completion cost up to 31.3.2019 in respect of the transmission asset is within the approved FR cost and, therefore, there is no cost over-run in respect of the transmission asset.

Time Over-run

13. As per IA, the project was scheduled to be commissioned within 16 months from the date of IA. Accordingly, the scheduled date of commercial operation the transmission asset is 20.11.2017 against which it was put under commercial operation on 1.10.2018. Hence, there is a time over-run of 315 days. However, the Commission vide order dated 7.5.2019 in Petition No. 170/TT/2018 did not condone the time over-run as most of the supporting documents submitted by the petitioner were in Tamil language. Accordingly, vide paragraph 22 of the said order, the Commission directed the Petitioner as follows:

“The petitioner has submitted various communications as supporting documents (letter dated 11.5.2017, 25.5.2017, 7.7.2017, 22.8.2017, 21.10.17, 10.11.2017, 30.5.2018, 13.6.2018, 9.7.2018, 18.7.2018 and 23.6.2018) in respect of RoW problems at Tower Location No. 12/1, 16/2 and section 18/7-18/8-18/9. However, most of the supporting documents submitted by the petitioner are in Tamil language. Therefore, Commission is not in a position to take a final view in the matter. Accordingly, at present, the delay of 315 days is not condoned. The petitioner is directed to submit the English translation of aforesaid documents at the time of truing up to enable the Commission to take a final view on the matter.”



14. In compliance of the Commission's direction, the Petitioner has now filed supporting documents duly translated in English language. The main reasons cited and the relevant documents submitted by the Petitioner are as follows:

a. RoW at Tower location No. 16/2: Construction works at Location No. 16/2 was severely affected due to intermittent stoppage of works by landowner for want of enhanced compensation. Matter was taken up with the administration and the police. Finally, with support of the police and the administration, stringing works in the section could be completed on 6.5.2018.

b. RoW at Section 18/7-18/8-18/9: One landowner between the spans 18/7-18/8-18/9 did not allow the stringing works over his land demanding rerouting of the line. He also filed a Writ Petition being Petition No.17986 & 22029/2017 for the same. Though, there was no stay by Hon'ble High Court of Madras, the landowner did not allow the construction works. Matter was taken up with police and district administration and finally the work started in their presence.

c. Delay due to heavy rainfall and floods: Unprecedented heavy rainfall and floods during the period from October, 2017 to November, 2017 and August, 2018 to September, 2018 severely affected the construction activities of the transmission asset. Overflow of the Kollidam river affected the construction work of river crossing foundations (pile foundations) which in turn affected the erection and stringing in these sections.

d. Delay in construction activities due to scarcity of sand in Tamil Nadu: Due to ban on sand mining, in the State of Tamil Nadu, all construction activities were severely affected. The approximate delay caused in the completion of foundation activities on this count is 5-6 months.

e. Activity-wise planning and achievement chart is as follows:



Sr. No.	Activity	Planned		Achieved	
		From	To	From	To
1	Investment Approval by Board	--	July 2016	--	July 2016
2	LOA	August 2016	August 2016	August 2016	August 2016
3	Supplies	September 2016	July 2017	September 2016	August 2017
4	Foundation	October 2016	July 2017	October 2016	July 2018
5	Tower Erection	December 2016	August 2017	December 2016	September 2018
6	Stringing	February 2017	September 2017	February 2017	September 2018
7	Testing and Commissioning	October 2017	November 2017	September 2018	October 2018

15. The Petitioner has also submitted activity-wise delay and documentary evidences in support of the delay periods as follows:

Sr. No.	Reason for Delay	Documentary evidence submitted
1	Intermittent stoppage of works by landowner	Letter from PGCIL to Inspector of Police dated 21.10.2017, 10.11.2017 and 07.07.2017.
2	Stoppage of works by landowner	Writ Petition No: 17986/2017 dated 09.07.2017. Letter from PGCIL to Inspector of Police dated 13.6.2018.
3	Delay due to heavy rainfall and floods	Newspaper articles dated 29.09.2018, 01.11.2017 and 31.10.2017.
4	Delay in construction activities due to scarcity of sand in Tamil Nadu	Newspaper articles dated 06.02.2018, 15.10.2018, 23.03.2018, 02.09.2017 and 28.04. 2017.

16. TANGEDCO vide affidavit dated 19.4.2021 with reference to Petitioner's submission of delay on account of heavy rainfall and scarcity of sand submitted that the Petitioner was well aware of the prevailing monsoon conditions and RoW issues. Further, these reasons do not come under the definition of force majeure as defined in 2014 Tariff Regulations. Therefore, time over-run should not be condoned on this count.

17. We have considered the submissions of the Petitioner and TANGEDCO. As per the Investment Approval dated 20.7.2016, the transmission asset was scheduled to be commissioned within 16 months i.e. by 20.11.2017 against which the asset was



put into commercial operation on 1.10.2018, with a time over-run of 315 days. The Petitioner has submitted that the transmission asset is delayed mainly due to ROW problems in construction of transmission line, court case pertaining to construction of transmission line, heavy rainfall/ floods and scarcity of sand across Tamil Nadu, wherein the construction was being carried out.

18. As per the submissions of the Petitioner, it is observed that the initial activities of placing letter of award (LOA) and commencement of field activities like foundation, erection and stringing were taken up as per initial approved schedule. The Petitioner has submitted various communications as supporting documents namely letters dated 11.5.2017, 25.5.2017, 7.7.2017, 22.8.2017, 21.10.2017, 10.11.2017, 30.5.2018, 13.6.2018, 23.6.2018, 9.7.2018 and 18.7.2018 in respect of RoW problems at Tower Location Nos. 12/1, 16/2 and section 18/7-18/8-18/9. The Petitioner has been able to put the asset under commercial operation on 1.10.2018.

19. We observe from the documents submitted that the activities were as per schedule as on October 2016, post which there have been persistent RoW issues from May 2017 to June 2018. From the submissions of the Petitioner and documentary evidence submitted by it, we note that ROW issues from 11.5.2017 to 18.7.2018 (434 days) at various locations affected the commissioning of the transmission asset. The time over run of 434 days on account of ROW problems was beyond the control of the Petitioner. However, the Petitioner has compressed the execution time and commissioned the transmission assets with overall delay of 315 days. Therefore, the overall time over run of 315 days in commissioning of transmission asset is condoned. As regards Petitioner's claim of time overrun on



account of other reasons like rains, flood and scarcity of sand, we are not deliberating the same as the same gets subsumed in the overall delay caused due to RoW problems and the same has not been dealt here.

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

20. The Petitioner has claimed IDC for the transmission asset and has submitted Auditor's Certificate in support of the same. The Petitioner has submitted statement showing IDC claim, discharge of IDC liability as on COD and thereafter as follows:

(₹ in lakh)			
DC as per Auditor Certificate	IDC Discharged up to COD	IDC discharged during 2018-19	IDC discharged during 2019-20
240.08	118.74	103.83	17.52

21. The Commission vide letter dated 24.11.2020 directed the Petitioner to submit the IDC discharge statement in respect of asset covered in the instant petition. The Petitioner submitted the same vide affidavit dated 10.12.2020.

22. The allowable IDC has been worked out considering the information submitted by the Petitioner for the transmission assets on cash basis. We observe that the loan details submitted in IDC statement and as mentioned in Form-9C is not matching. Hence, for the purpose of determination of IDC, the loan amount as mentioned in the IDC statement and IDC as per Auditor certificate has been considered. Based on the available information, IDC allowed is as follows:

(₹ in lakh)				
IDC as per Auditor's Certificate	IDC worked out	IDC disallowed due to computation difference	IDC allowed up to COD on cash basis	Un-discharged IDC as on COD
A	B	C=A-B	D	E=B-D
240.08	240.08	-	118.73	121.35



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

Un-discharged portion of entitled IDC as on COD	IDC being discharged as ACE	
	2018-19	2019-20
121.35	103.83	17.52

24. The Petitioner has claimed IEDC of ₹198.54 lakh for the transmission asset which is within the percentage of hard cost as indicated in the abstract cost estimate. Hence, the entire amount of IEDC has been allowed. Accordingly, IEDC details considered for the purpose of tariff calculation are as follows:

IEDC claimed by Petitioner (as per Auditor Certificate)	Entitled IEDC up to COD	IEDC disallowed due to time overrun	IEDC allowed on cash basis as on COD
A	B	C=A-B	D=A-C
198.54	198.54	-	198.54

Initial Spares

25. The Petitioner in its reply dated 10.12.2020 has worked out the Initial Spares for the transmission asset as under:

Particulars	Estimated Completion Cost (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling limit (in %) (C)	Initial Spares worked out	Excess Initial Spares E = B-D (₹ in lakh)
				D = [(A-B)*C / (100-C)] (₹ in lakh)	
Asset	5038.43	64.87	1.00	65.84	0.00

26. We have considered the submissions made by the Petitioner. The initial spares claimed by the Petitioner for the transmission Asset is within the permissible limit and the same is allowed.



Capital Cost as on COD

27. Accordingly, the capital cost allowed as on COD is summarized as follows:

(₹ in lakh)			
Capital Cost claimed in Auditor Certificate as on COD (A)	IDC Disallowed (B)	Un-discharged IDC as on COD (C)	Capital Cost allowed as on COD (E) = (A-B-C)
5477.05	0.05	121.35	5355.66

Additional Capital Expenditure (ACE)

28. The cut-off date for the transmission asset is 31.3.2021. The Petitioner has claimed ACE of ₹973.79 lakh for 2018-19. The Petitioner has submitted that ACE incurred in 2018-19 is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date and work to be executed within the cut-off date. The Petitioner has claimed the same under Regulation 14(1)(i) (undischarged liabilities recognized to be payable at a future date) and Regulation 14(1)(ii) (works deferred for execution) respectively of the 2014 Tariff Regulations. The break-up of ACE claimed by the Petitioner is as under:

(₹ in lakh)		
Particulars	Regulation	FY 2018-19
Balance and retention payments for liabilities other than IDC	14(1)(i)	534.57
Works deferred for execution	14(1)(ii)	335.39
IDC Discharged after COD	14(1)(i)	103.83
Total ACE		973.79

29. We have considered the submissions made by the Petitioner. The worked out un-discharged IDC as on COD has been allowed as ACE during the year of discharge. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and (ii) of the 2014 Tariff Regulations which pertain to un-discharged liabilities



recognized to be payable at a future date and liabilities toward works deferred for execution respectively. Accordingly, ACE as claimed for 2018-19 is allowed.

30. The capital cost allowed as on 31.3.2019 after including ACE in respect of the transmission asset vide order dated 7.5.2019 in Petition No. 170/TT/2018, claimed in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)

Particulars	Capital cost as on COD on cash basis	ACE	Total Capital cost including ACE as on 31.3.2019
		2018-19	
Allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018	5208.67	1371.63	6580.30
As claimed by the Petitioner in the instant petition	5355.70	973.79	6329.49
Approved after truing up in this order	5355.70	973.79	6329.49

Debt-Equity Ratio

31. The Petitioner has claimed debt-equity ratio of 70:30 as on COD and 70.04:29.96 for ACE. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and 70.04:29.96 for 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	3748.96	70.00	4431.02	70.01
Equity	1606.70	30.00	1898.43	29.99
Total	5355.66	100.00	6329.44	100.00

Depreciation

32. The Petitioner has claimed depreciation considering capital expenditure of ₹5355.70 lakh as on COD for the transmission asset. The depreciation has been worked out as per the methodology provided in Regulation 27 of the 2014 Tariff



Regulations. The Gross Block during the 2018-19 tariff period with regard to the transmission asset has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is at Annexure-1. WAROD has been worked out after taking into account the depreciation rates of asset as prescribed in the 2014 Tariff Regulations and depreciation allowed during the 2018-19 period for the transmission asset is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 182 days)
Opening Gross Block	5355.66
Additional Capitalisation	973.79
Closing Gross Block	6329.44
Average Gross Block	5842.55
Weighted average rate of Depreciation (WAROD) (in %)	5.28
Balance useful life of the asset at the beginning of the year (Year)	35
Aggregated Depreciable Value	5258.29
Depreciation during the year	153.82
Remaining Aggregated Depreciable Value	5104.47

33. The details of the depreciation allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018, as claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 182 days)
Allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018	155.19
Claimed by the Petitioner in the instant petition	153.82
Approved after true-up in this order	153.82

Interest on Loan (IoL)

34. The Petitioner has claimed the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, IoL is calculated based on actual



interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of IoL allowed are as follows:

Particular	(₹ in lakh)	
	2018-19 (Pro-rata for 182 days)	
Gross Normative Loan	3748.96	
Cumulative Repayments upto Previous Year	0.00	
Net Loan-Opening	3748.96	
Addition due to Additional Capitalization	682.06	
Repayment during the year	153.82	
Net Loan-Closing	4277.20	
Average Loan	4013.08	
Weighted Average Rate of Interest on Loan (in %)	7.735	
Interest on loan	154.79	

35. The details of IoL allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)	
	2018-19 (Pro-rata for 182 days)	
Allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018	157.48	
Claimed by the Petitioner in the instant petition	154.79	
Approved after true-up in this order	154.79	

Return on Equity (RoE)

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

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



37. The Petitioner has claimed additional RoE of 0.50% for the transmission asset.

38. We have considered the submissions of the Petitioner. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates as follows:

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

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

Year	MAT Rate (in %)	Grossed up RoE [Base Rate/(1-t)] (in %)
2014-15	20.961	19.610
2015-16	21.342	19.705
2016-17	21.342	19.705
2017-18	21.342	19.705
2018-19	21.549	19.758

40. The Commission vide order dated 7.5.2019 in Petition No. 170/TT/2018 had allowed additional RoE of 0.50% for the transmission asset and the grossed-up RoE worked out is 20.395%.

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

	(₹ in lakh)
Particulars	2018-19 (Pro-rata for 182 days)
Opening Equity	1606.70



ACE	291.73
Closing Equity	1898.43
Average Equity	1752.56
Return on Equity (Base Rate) (in %)	16.000
Tax Rate applicable (in %)	21.549
Rate of Return on Equity (Pre-tax)	20.395
Return on Equity	178.23

42. The details of RoE allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018, as claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata for 182 days)
Allowed vide order dated 07.05.2019 in Petition No. 170/TT/2018	170.15
Claimed by the Petitioner in the instant petition	178.23
Approved after true-up in this order	178.23

Operation & Maintenance Expenses (O&M Expenses)

43. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The total O&M Expenses for the transmission asset claimed by the Petitioner is as follows:

(₹ in lakh)	
Particulars	2018-19 (Pro-rata)
NLC-KaraiKal 230 kV D/C Line (through LILO of the 230 kV Neyveli-Bahour S/C line at Karaikal). (Line length: 94.890 km; Single conductor; D/C)	16.37

44. The O&M norms for a D/C transmission line with single conductor as specified in Sub-clause (a) of Clause (4) of Regulation 29 in the 2014 Tariff Regulations is ₹0.346 lakh/km. Accordingly, the Petitioner's entitlement to O&M Expenses has been worked out as under:

Particulars	2018-19 (Pro-rata for 182 days)
NLC-KaraiKal 230 kV D/C Line (through LILO of the 230 kV Neyveli-Bahour S/C line at Karaikal).	16.37



(Line length: 94.890 km; Single conductor; D/C)

45. The details of the O&M expenses allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 182 days)
Allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018	16.42
Claimed by the Petitioner in the instant petition	16.37
Approved after true-up in this order	16.37

Interest on Working Capital (IWC)

46. The Petitioner has claimed IWC in terms of Regulation 28(1)(c) of the 2014 Tariff Regulations as under:-

i. Maintenance spares:

Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses.

ii. O & M Expenses:

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

iii. Receivables:

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

iv. Rate of interest on working capital:

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

47. The trued-up IWC allowed for the transmission asset is as follows:

Particulars	(₹ in lakh)
	2018-19 (Pro-rata for 182 days)



O & M Expenses (O&M expenses for 1 month)	2.74
Maintenance Spares (15% of O&M expenses)	4.92
Receivables (Equivalent to 2 months of annual fixed cost / annual transmission charges)	171.85
Total	179.51
Rate of Interest on working capital (in %)	12.20
Interest of working Capital	10.92

48. The details of IWC allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018, trued-up IWC claimed by the Petitioner and trued-up IWC allowed in the instant order is as follows:

Particulars	(₹ in lakh)	
	2018-19 (Pro-rata for 182 days)	
Allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018	10.84	
Claimed by the Petitioner in the instant petition	10.92	
Approved after true-up in this order	10.92	

Approved Annual Fixed Charges for the 2014-19 Tariff Period

49. The trued-up annual fixed charges allowed for the transmission asset for 2014-19 period is as follows:

Particulars	(₹ in lakh)	
	2018-19	
Depreciation	153.82	
Interest on Loan	154.79	
Return on Equity	178.23	
Interest on Working Capital	10.92	
Operation and Maintenance	16.37	
Total	514.13	

50. Accordingly, the Annual Transmission Charges allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018, trued-up AFC claimed by the Petitioner in the instant petition and trued up AFC allowed in the instant order are as follows:

Particulars	(₹ in lakh)	
	2018-19	



Allowed vide order dated 7.5.2019 in Petition No. 170/TT/2018	510.03
Claimed by the Petitioner in the instant petition	514.13
Approved after true-up in this order	514.13

Determination of Annual Fixed Charges for the 2019-24 Tariff Period

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	201-22	2022-23	2023-24
Depreciation	352.47	370.75	370.75	370.75	370.75
Interest on Loan	338.92	329.64	301.62	273.43	244.07
Return on Equity	376.07	395.57	395.57	395.57	395.57
Interest on Working Capital	17.61	18.15	17.78	17.41	16.98
Operation and Maintenance	35.77	37.10	38.34	39.76	41.09
Total	1120.84	1151.21	1124.06	1096.92	1068.46

52. The Petitioner has claimed the following Interest on Working Capital for the transmission asset for the 2019-24 tariff period:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	2.98	3.09	3.20	3.31	3.42
Maintenance Spares	5.37	5.57	5.75	5.96	6.16
Receivables	137.81	141.93	138.58	135.24	131.37
Total	146.16	150.59	147.53	144.51	140.95
Rate of Interest	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	17.61	18.15	17.78	17.41	16.98

Capital Cost

53. Regulation 19 of the 2019 Tariff Regulations provides as under:

“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, for co-firing;
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;
- (n) Expenditure on account of change in law and force majeure events; and
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
- (c) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve



and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”

(4) The capital cost in case of existing or new hydro generating station shall also include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
- (b) cost of the developer’s 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.*

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

- (a) The 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.”*

54. The Petitioner has claimed the capital cost of ₹6329.49 lakh as on 31.3.2019 for the transmission asset. Against the overall approved capital cost (as per FR) of ₹10278.63 lakh, the estimated completion cost including ACE is ₹7021.74 lakh as on 31.3.2024. The Commission has worked out capital cost of ₹6329.49 lakh as on 31.3.2019 and it has been considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff



Regulations. The capital cost projected by the Petitioner during the 2019-24 period is as follows:

Particulars	(₹ in lakh)
	₹ in lakh
Capital cost as on 31.03.2019	6329.49
Estimated ACE as per Auditor's certificate in 2019-20	674.73
IDC discharged	17.52
Capital Cost claimed as on 31.3.2024	7021.74

Additional Capital Expenditure (ACE)

55. Regulation 24 of the 2019 Tariff Regulations provide as under:

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

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

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

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

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

56. The Petitioner has claimed ACE of ₹692.25 lakh during 2019-20 for the asset on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date under Regulation 24(1)(a) of the 2019 Tariff Regulations. The capital cost and ACE projected by the Petitioner during the 2019-24 period is as follows:



Capital Cost claimed as on 1.4.2019	ACE claimed	Capital Cost claimed as on 31.3.2024
	2019-20	
6329.44	692.25	7021.69

57. ACE claimed on account of balance and retention payments and deferred works is allowed under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. Therefore, the capital cost considered for the 2019-24 tariff period is as follows:

FR cost considered	Capital Cost as on 1.4.2019	Admitted ACE	Capital Cost as on 31.3.2024
		2019-20	
10278.63	6329.44	692.25	7021.69

Debt-Equity Ratio

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

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

Provided that:

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

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

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



generating station or the transmission system including communication system, as the case may be.

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

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

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

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

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

59. The details of the debt-equity considered for the purpose of computation of tariff for the 2019-24 tariff period for the transmission asset are 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	4431.02	70.01	4915.59	70.01
Equity	1898.43	29.99	2106.10	29.99
Total	6329.44	100.00	7021.69	100.00

Depreciation

60. Regulations 33(1), 33(2) and 33(5) of the 2019 Tariff Regulations provide 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 decapitalized asset during its useful services.”

61. The calculation of WAROD for the 2019-24 period is at Annexure-2 to this order.

The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the transmission asset is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	6329.44	7021.69	7021.69	7021.69	7021.69
Addition during the year 2019-24 due to projected Additional Capitalisation	692.25	0.00	0.00	0.00	0.00
Closing Gross Block	7021.69	7021.69	7021.69	7021.69	7021.69
Average Gross Block	6675.57	7021.69	7021.69	7021.69	7021.69
Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
Balance useful life at the beginning (Year)	35.00	34.00	33.00	32.00	31.00
Aggregated Depreciable Value	6008.01	6319.52	6319.52	6319.52	6319.52
Depreciation during the year	352.47	370.75	370.75	370.75	370.75
Remaining Aggregate Depreciable Value at the end of the year	5501.72	5442.49	5071.74	4701.00	4330.25
Aggregate Cumulative Depreciation at the end of the year	506.29	877.04	1247.78	1618.53	1989.27

Interest on Loan (IoL)



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

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

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

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of 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.

(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”.

63. The weighted average rate of IoL has been considered on the basis of the rate prevailing as on 1.4.2019. IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. The details of weighted average rate of interest for 2019-24 tariff period and IoL allowed is follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24

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Gross Normative Loan	4431.02	4915.59	4915.59	4915.59	4915.59
Cumulative Repayments up to Previous Year	153.82	506.29	877.04	1247.79	1618.54
Net Loan-Opening	4277.20	4409.30	4038.56	3667.81	3297.06
ACE	484.58	0.00	0.00	0.00	0.00
Repayment during the year	352.47	370.75	370.75	370.75	370.75
Net Loan-Closing	4409.30	4038.56	3667.81	3297.06	2926.32
Average Loan	4343.25	4223.93	3853.18	3482.44	3111.69
Weighted Average Rate of Interest on Loan (in %)	7.803	7.804	7.828	7.851	7.843
Interest on Loan	338.92	329.64	301.62	273.42	244.06

Return on Equity (RoE)

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

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

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

Provided further that:

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

ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

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

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:



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

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

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

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

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

Illustration-

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

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

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

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

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year.



However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”

65. The MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the instant transmission asset under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	1898.43	2106.10	2106.10	2106.10	2106.10
ACE	207.68	0.00	0.00	0.00	0.00
Closing Equity	2106.10	2106.10	2106.10	2106.10	2106.10
Average Equity	2002.26	2106.10	2106.10	2106.10	2106.10
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)	18.782	18.782	18.782	18.782	18.782
Return on Equity (Pre-tax)	376.07	395.57	395.57	395.57	395.57

Operation & Maintenance Expenses (O&M Expenses)

66. Regulation 35(3)(a) of the 2019 Tariff Regulations provides as follows:

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282



132 kV and below	0.245	0.254	0.263	0.272	0.282
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
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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

Provided further that:

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



- iii. the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

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

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

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

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

67. The claimed O&M expenses for the 2019-24 tariff period are in accordance with the norms specified in the 2019 Tariff Regulations. Accordingly, O&M expenses claimed by the Petitioner and allowed by the Commission are as follows:

(₹ in lakh)					
O&M Expenses					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
LILO of Nevyeli – Bahoor (km) (A)	94.89	94.89	94.89	94.89	94.89
Norms D/C Single conductor (₹ lakh per km) (B)	0.377	0.391	0.404	0.419	0.433
Total O&M Expense (A*B)	35.77	37.10	38.34	39.76	41.09



Interest on Working Capital (IWC)

68. Regulations 34(1)(c), 34(3) and 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;”

69. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for



2019-20 and 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-24. The components of the working capital and interest allowed thereon is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses (O&M expenses for 1 month)	2.98	3.09	3.19	3.31	3.42
Maintenance Spares (15% of O&M expenses)	5.37	5.57	5.75	5.96	6.16
Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	137.81	141.78	138.43	135.09	131.23
Total	146.16	150.44	147.38	144.37	140.81
Rate of Interest (in %)	12.05	11.25	11.25	11.25	11.25
Interest of working capital	17.61	16.92	16.58	16.24	15.84

Annual Fixed Charges for the 2019-24 Tariff Period

70. The transmission charges allowed for the transmission Asset for the 2019-24 tariff period are summarised as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	352.47	370.75	370.75	370.75	370.75
Interest on Loan	338.92	329.64	301.62	273.42	244.06
Return on Equity	376.07	395.57	395.57	395.57	395.57
Interest on Working Capital	17.61	16.92	16.58	16.24	15.84
Operation and Maintenance	35.77	37.10	38.34	39.76	41.09
Total	1120.84	1149.98	1122.85	1095.73	1067.31

Filing Fee and Publication Expenses

71. 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.

72. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the



beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

73. The Petitioner has claimed reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner has also claimed recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner is allowed reimbursement of Licence Fee and recovery of RLDC Fees and Charges in terms of the 2019 Tariff Regulations.

Goods and Services Tax

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

75. TANGEDCO in its reply dated 19.4.2021 has stated that the petitioner should be restrained from including the paragraph of GST in its petition, since the provisions of GST Act are very clear and that GST is not applicable for transmission companies. In response the petitioner filed a rejoinder dated 28.04.2021 stating that, the current transmission charges are exempted from GST, however, 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. Further the petitioner submitted that additional taxes, if any, are to be paid on account of demand from Government/ Statutory authorities, which may be allowed to be recovered from the beneficiaries.



76. We have considered the submission of the Petitioner and the TANGEDCO. As GST is not levied on transmission service at present, we are of the view that Petitioner's prayer is premature and the Petitioner is at liberty to approach this Commission if GST is levied upon transmission service in future.

Sharing of Transmission Charges

77. TANGEDCO in its reply dated 19.4.2021 has submitted that the trued-up capital cost for the tariff block 2014-2019 has to be shared among the beneficiaries as per the 2010 Sharing Regulations. However, the new 2020 Sharing Regulations have been notified on 4.5.2020 and came into force with effect from 1.11.2020. Under these circumstances, it is essential to segregate the additional cost and tariff liability up to 31.10.2020 and from 1.11.2020 so as to allocate the charges based on the 2010 Sharing Regulations and 2020 Sharing Regulations respectively. It has requested that the Commission may issue suitable directions to allocate the trued-up YTC up to 31.10.2020 as per 2010 Sharing Regulations and YTC from 1.11.2020 as per the 2020 Sharing Regulations. The Petitioner in its rejoinder dated 28.04.2021 submitted that, after the truing up and determination of transmission tariff, sharing of transmission charges for 2014-19 tariff period and 2019-24 tariff period up to 31.10.2020 shall be done as per the 2010 Sharing Regulations and thereafter from 1.11.2020 onwards shall be done as per the 2020 Sharing Regulations. Further, the Petitioner has submitted that tariff determination and sharing of transmission charges are two independent activities and same cannot be inter-linked. After the 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.

78. We have considered the submissions of the Petitioner and TANGEDCO. The Commission vide order dated 7.5.2019 in petition No. 170/TT/2018 had held as under:

“56. As per para 16 above, the transmission charges for the instant asset for the period from 1.10.2018 to 19.12.2018 shall be borne by PED. Thereafter, from 20.12.2018, the transmission charges shall be governed as per the provisions in the 2010 Sharing Regulations, as amended from time to time.”

79. Accordingly, the transmission charges from 1.10.2018 to 19.12.2018 shall be borne by PED. With effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 (in short, ‘the 2020 Sharing Regulations’). Accordingly, the liabilities of 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 shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. For subsequent period, the billing, collection and disbursement of the transmission charges approved in this order shall be governed by the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

80. To summarise:

(a) The trued-up Annual Fixed Charges approved for the transmission asset for the year 2018-19 are as follows:

(₹ in lakh)

Particulars	2018-19 (Pro-rata for 182 days)
AFC	514.13



(b) The Annual Fixed Charges allowed for the transmission asset for the 2019-24 tariff period in this order are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	1120.84	1149.98	1122.85	1095.73	1067.31

81. Annexure-1 and Annexure-2 given hereinafter shall form part of the order.

82. This order disposes of Petition No. 461/TT/2020 in terms of the above discussion and findings.

sd/-
(Pravas Kumar Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I.S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson



Annexure- 1

2014-19	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
Capital Expenditure as on COD		2018-19			2018-19 (₹ in lakh)
Transmission Line	5355.66	973.79	6329.44	5.28	308.49
TOTAL	5355.66	973.79	6329.44		308.49
Average Gross Block (₹ in lakh)					5842.55
Weighted Average Rate of Depreciation (in %)					5.28



Annexure-2

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-20 (₹ in lakh)	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
					2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Transmission Lines	6329.44	692.25	7021.69	5.28	352.47	370.75	370.75	370.75	370.75
TOTAL	6329.44	692.25	7021.69		352.47	370.75	370.75	370.75	370.75
			Average Gross Block (₹ in lakh)		6675.57	7021.69	7021.69	7021.69	7021.69
			Weighted Average Rate of Depreciation (in %)		5.28	5.28	5.28	5.28	5.28

