CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO. 75/TT/2021

Coram:

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

Date of Order : 23.01.2023

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for determination of transmission tariff from COD to 31.3.2024 for the transmission assets “NNTPS Switchyard – Ariyalur (Villupuram) 400 kV D/C Twin line” and “2 nos. of 400 kV Line bays at Ariyalur Sub-station (TANTRANSCO) for terminating NNTPS Switchyard – Ariyalur (Villupuram) 400 kV D/C line” under “Transmission System for evacuation of power from 2X500 MW Neyveli Lignite Corporation Limited TS-1 (Replacement) (NNTPS)” in Southern Regional Grid.

And in the matter of:

Power Grid Corporation of India Limited
SAUDAMINI, Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana). **..... Petitioner**

Versus

1. Tamil Nadu Generation and Distribution Corporation Limited,
(Formerly Tamil Nadu Electricity Board-TNEB),
NPKRR Maligai, 800, Anna Salai, Chennai- 600 002.

2. Transmission Corporation of Andhra Pradesh Limited (APTRANSCO),
Vidyut Soudha, Near Axis Bank, Eluru Road,
Gunadala, Vijayawada- 520 004.

3. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam,
Pattom, Thiruvananthapuram- 695 004.

4. Electricity Department,

Government of Goa,
Vidyuti Bhawan, Panaji,
Goa- 403 001.

5. Electricity Department,
Government of Pondicherry,
Pondicherry- 605 001.

6. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL),
P&T Colony, Seethmmadhara, Vishakhapatanam,
Andhra Pradesh.

7. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL),
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati- 517 501, Chittoor, Andhra Pradesh

8. Southern Power Distribution Company of Telangana Limited (TSSPDCL),
6-1-50, Corporate Office, Mint Compound,
Hyderabad- 500 063, Telangana.

9. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL),
Opposite NIT Petrol Pump,
Chaitanyapuri, Kazipet,
Warangal- 506 001, Andhra Pradesh.

10. Bangalore Electricity Supply Company Limited (BESCOM),
Corporate Office, K.R. Circle,
Bangalore- 560001, Karnataka

11. Gulbarga Electricity Supply Company Limited (GESCOM),
Station Main Road, Gulbarga,
Karnataka.

12. Hubli Electricity Supply Company Limited (HESCOM),
Navanagar, PB Road,
Hubli, Karnataka.

13. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore- 575 001, Karnataka.

14. Chamundeswari Electricity Supply Corporation Limited (CESC),
927, L J Avenue, Ground Floor, New Kantharaj URS Road,
Saraswatipuram, Mysore- 570009, Karnataka.

15. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad- 500 082.

16. Karnataka Power Transmission Corporation Limited (KPTCL),
Kaveri Bhawan, Bangalore- 560009.

17. NLC India Limited,
Corporate Office,
Neyveli- 607801, Tamil Nadu.

18. Tamil Nadu Transmission Corporation (TANTRANSCO),
144, Anna Salai,
Chennai- 600002 **...Respondent(s)**

For Petitioner: Shri S.S. Raju, PGCIL
Shri D.K Biswal, PGCIL
Shri V.P. Rastogi, PGCIL
Shri A.K. Verma, PGCIL

For Respondent: Shri S. Vallinyagam, Advocate, TANGEDCO
Dr. R. Kathivaran, TANGEDCO
Shri R. Ramalakshmi, TANGEDCO
Shri R. Srinivasan, TANGEDCO
Shri R. Kumutha, TANGEDCO

ORDER

Power Grid Corporation of India Limited (hereinafter referred to as "the Petitioner"), a deemed transmission licensee, has filed the instant petition for determination of tariff from COD 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 the following transmission assets under "Transmission System for evacuation of power from 2X500 MW Neyveli Lignite Corporation Limited TS-1(Replacement) (NNTPS)" (hereinafter referred to as the "transmission project"):

Sl. No.	Asset	Asset Description	COD
1	**Asset-1**	NNTPS Switchyard – Ariyalur (Villupuram) 400 kV D/C Twin line (The said line could not be terminated at Ariyalur Sub-station due to non-readiness of new Ariyalur Sub-station being implemented by TANTRANSCO. The said line is connected with one circuit of LILO section of existing Pugalur- Kalivindapattu 400 kV D/C Line at Ariyalur to form NNTPS-Pugalur 400 kV circuit and NNTPS-Kalivindapattu 400 kV circuit as an interim arrangement as per the approval given by CEA vide letter dated 9.3.2020)	9.7.2020 (Actual)
2	**Asset-2**	2 nos. of 400 kV Line bays at Ariyalur Sub-station (TANTRANSCO) for terminating NNTPS Switchyard – Ariyalur (Villupuram) 400 kV D/C line	31.12.2022* (Anticipated)

(*As per the affidavit dated 22.8.2022.)

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

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

2) Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this petition, as per para –8.4 above.

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 2019 as per para 8 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 beneficiaries.*

7) *Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 8.9 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.*

10) *Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges.*

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) of the transmission project was accorded by Board of Directors (BoD) of the Petitioner in its 340th meeting held on 11.5.2017 vide Memorandum Ref.: C/CP/PA 1718-06-0A-IA006 dated 6.6.2017, for an estimated cost of ₹18617 lakhs including IDC of ₹951 lakh, at February, 2017 price level. The project was scheduled to be commissioned within 13-26 months progressively from the date of IA.

b) The approval for Revised Cost Estimate (RCE) of the transmission project was accorded by BoD of the Petitioner's company vide letter Ref: C/CP/PA1920-12-0AR-RCE013 dated 27.3.2020 at an estimated cost of ₹21966 lakh including IDC of ₹1211 lakh at September, 2019 price level.

c) The Petitioner has submitted that the scope of the transmission project was discussed and agreed in the 35th, 37th and 39th meetings of Standing Committee on Power System Planning in the Southern Region held on 4.1.2013, 31.7.2014 and 28.12.2015 respectively. Further, the transmission project has also been agreed to in the 26th and 29th meeting of Southern Region Power Committee (SRPC) held on 20.12.2014 and 5.3.2016 respectively.

d) The broad scope of work covered under the transmission project in the Southern Region is as follows:

Transmission lines

i. LILO of existing Neyveli TS-II – Pondicherry 400 kV S/C at NNTPS generation switchyard-4 kms (400 kV D/C Twin-2 kms and 400 kV M/C Twin- 2 kms).

ii. NNTPS switchyard – Ariyalur (Villupuram) 400 kV D/C Twin line- 78 kms.

Sub-station

Ariyalur (Villupuram) 400 kV Sub-station of TANTRANSCO

i. 2 nos. of 400 kV line bays at Ariyalur (Villupuram) Sub-station for terminating NNTPS switchyard - Ariyalur (Villupuram) 400 kV D/C line. (**Note:** 400 kV bays at NNTPS shall be provided by NLC)

e) The Petitioner has submitted the details of the transmission assets under instant transmission project as follows:

Asset	SCOD	Actual COD	Petition No.
Asset-1: NNTPS switchyard – Ariyalur (Villupuram) 400 kV D/C Twin line (The said line could not be terminated at Ariyalur Sub-station due to non-readiness of new	10.6.2018 to 10.7.2019 progressively	9.7.2020 (Actual)	Covered under instant petition

Ariyalur Sub-station being implemented by TANTRANSCO. The said line is connected with one circuit of LILO section of existing Pugalur- Kalivindapattu 400 kV D/C Line at Ariyalur to form NNTPS-Pugalur 400 kV circuit and NNTPS-Kalivindapattu 400 kV circuit as an interim arrangement as per the approval given by CEA vide letter dated 9.3.2020)			
Asset-2: 2 nos. of 400 kV Line bays at Ariyalur Sub-station (TANTRANSCO) for terminating NNTPS Switchyard – Ariyalur (Villupuram) 400 kV D/C line		31.12.2022* (Anticipated)	

(*As per affidavit dated 22.8.2022.)

(Truing up of the transmission tariff for the block year 2014-19 and determination of the transmission tariff for the block year 2019-24 in respect of NLC's transmission asset i.e. LILO of existing Neyveli TS-II-Pondicherry 400 kV S/C at NNTPS generation switchyard has been approved/allowed vide order dated 26.09.2021 in Petition No.150/TT/2020)

4. The Petitioner, during the hearing held on 1.8.2022, has submitted that the COD in respect of 2 nos. of 400 kV Line bays at Ariyalur Sub-station is anticipated by 31.12.2022. Same has been submitted by the Petitioner vide affidavit dated 22.8.2020.

5. It is observed that the Petitioner has claimed tariff for Asset-2 on the basis of anticipated COD of 31.12.2022. However, since it has not been put into commercial operation, we are not inclined to approve tariff for Asset-2 in this order. The Petitioner is directed to file fresh petition based on the actual COD of Asset-2 along with CMD

Certificate, CEA Energisation Certificate and RLDC Certificate in line with 2019 Tariff Regulations on the basis of actual COD of Asset-2.

6. In the instant petition, we are dealing with determination of tariff for Asset-1 only which has been discussed in the subsequent paragraphs.

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

8. The Petitioner has served the petition on the Respondents and notice of this petition has been published in the newspaper 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 notice published in the newspaper by the Petitioner. The Respondent No. 8, TANGEDCO, vide affidavit dated 15.11.2021 has filed its reply and has raised the issues of time over-run and sharing of transmission charges. The Petitioner has filed rejoinder to the reply of TANGEDCO vide affidavit dated 24.11.2021. The issues raised by TANGEDCO, and the clarifications given by the Petitioner are considered in the relevant portions of this order.

9. This order is issued considering the submissions made by the Petitioner vide affidavits dated 5.11.2020, 20.10.2021 and 22.8.2022, reply filed by TANGEDCO vide affidavit dated 15.11.2021 and the Petitioner's rejoinder vide affidavit dated 24.11.2021.

10. The hearing in this matter was held on 26.10.2021, 7.7.2022 and 1.8.2022 through video conference and the order was reserved.

11. Having heard the representatives of the Petitioner and learned counsel for TANGEDCO, and after perusing the material on record, we proceed to dispose of the petition.

DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-24 TARIFF PERIOD

12. The Petitioner has claimed the following transmission charges for the Asset-1 for the 2019-24 tariff period:

(₹ in lakh)

Particulars	2020-21 (pro-rata 266 days)	2021-22	2022-23	2023-24
Depreciation	496.98	751.70	776.77	776.77
Interest on Loan	468.15	664.65	633.10	576.56
Return on Equity	530.35	802.18	828.93	828.93
O&M Expenses	49.01	69.61	72.04	74.55
Interest on Working Capital	23.03	34.04	34.42	33.64
Total	**1567.52**	**2322.18**	**2345.26**	**2290.45**

13. The Petitioner has claimed the Interest on Working Capital (IWC) for the Asset-1 for the 2019-24 tariff period as follows:

(₹ in lakh)

Particulars	2020-21 (Pro-rata 266 days)	2021-22	2022-23	2023-24
O&M Expenses	5.60	5.80	6.00	6.21
Maintenance Spares	10.09	10.44	10.81	11.18
Receivables	265.18	286.30	289.14	281.61
Total Working Capital	**280.87**	**302.54**	**305.95**	**299.00**
Rate of Interest (%)	11.25	11.25	11.25	11.25
Interest on Working Capital	**23.03**	**34.04**	**34.42**	**33.64**

Data of Commercial Operation (COD)

14. The Petitioner has claimed the actual COD of the Asset-1 as 9.7.2020.

15. Regulation 5 of the 2019 Tariff Regulations provides as follows:

*"**5. Date of Commercial Operation:** (1) The date of commercial operation of a generating station or unit thereof or a transmission system or element thereof and*

associated communication system shall be determined in accordance with the provisions of the Grid Code.

(2) In case the transmission system or element thereof executed by a transmission licensee is ready for commercial operation but the interconnected generating station or the transmission system of other transmission licensee as per the agreed project implementation schedule is not ready for commercial operation, the transmission licensee may file petition before the Commission for approval of the date of commercial operation of such transmission system or element thereof:

Provided that the transmission licensee seeking the approval of the date of commercial operation under this clause shall give prior notice of at least one month, to the generating company or the other transmission licensee and the long term customers of its transmission system, as the case may be, regarding the date of commercial operation:

Provided further that the transmission licensee seeking the approval of the date of commercial operation of the transmission system under this clause shall be required to submit the following documents along with the petition:

(a) Energisation certificate issued by the Regional Electrical Inspector under Central Electricity Authority;
(b) Trial operation certificate issued by the concerned RLDC for charging element with or without electrical load;
(c) Implementation Agreement, if any, executed by the parties;
(d) Minutes of the coordination meetings or related correspondences regarding the monitoring of the progress of the generating station and transmission systems;
(e) Notice issued by the transmission licensee as per the first proviso under this clause and the response;
(f) Certificate of the CEO or MD of the company regarding the completion of the transmission system including associated communication system in all respects."

Interim arrangement

16. The Petitioner has submitted that due to the non-readiness of New Ariyalur Sub-station being executed by TANTRANSCO and Asset-2 which is the bay extension at New Ariyalur Sub-station being executed by TANTRANSCO on behalf of the Petitioner on depository work basis, the subject line is connected with one circuit of LILO section of existing Pugalur- Kalivindapattu 400 kV D/C line at Ariyalur to form NNTPS - Pugalur 400 kV circuit and NNTPS- Kalivindapattu 400 kV circuit as an interim arrangement. The Petitioner further submitted that the above interim arrangement has been agreed to and approved vide meeting held on 09.03.2020 at CEA, New Delhi.

17. The Petitioner has installed additional 01 DPC each at Pugalur and Kalivanthapattu-end and 04 DPCs at NNTPS-end to meet the tele-protection requirements, as the wave trap (WT) positions for Pugalur-Kalivanthapattu line are in R & Y Phase at both ends. The WT position at NNTPS-end is R & B phase and the existing Pugalur – Kalivanthapattu line is having one number DPC at both ends for each circuit.

18. M/s TANTRANSCO has provided OPGW communication link from NNTPS, Neyveli to Pugalur and Kalivanthapattu directions for tele-protection communication for this temporary LILO (an interim arrangement).

19. We have considered the submissions of the Petitioner. The Petitioner has submitted that NNTPS switchyard – Ariyalur (Villupuram) 400kV D/C Twin line is connected with one circuit of LILO section of existing Pugalur- Kalivindapattu 400 KV D/c Line at Ariyalur to form NNTPS-Pugalur 400 KV circuit and NNTPS- Kalivindapattu 400 KV circuit as an interim arrangement. The interim arrangement has been approved by CEA vide letter dated.9.3.2020. The relevant extracts of the minutes of the meeting regarding alternate arrangement of transmission system for evacuation of power from 2nd unit of NNTPS is as follows:

> *"1. Chief Engineer (PSP&A-II), CEA, welcomed the participants and informed that the meeting has been called for discussing possible alternate arrangement for evacuation of power from 2nd Unit of New Neyveli Thermal Power Plant (replacement)(NNTPS) (2x500 MW) of NLC in Tamil Nadu, due to delay in commissioning of Ariyalur substation. The Ariyalur Substation (765/400 kV) is being implemented by TANTRANSCO.*
>
> *2. CTU representative informed that the Ariyalur sub-station was planned to be commissioned in 2017-18. However, as informed by TANTRANSCO, the sub-station is likely to be commissioned by June, 2020 (under best effort scenario). The 2nd Unit of NNTPS (being implemented by NLC), and the NNPTS – Ariyalur 400 kV D/c line, being implemented by POWERGRID, is likely to be commissioned by March, 2020. Hence, as an interim arrangement, the NNTPS – Ariyalur line may be connected with one circuit of LILO section of Pugalur – Kalivandapattu 400 kV D/c line at Ariyalur, to form NNTPS – Pugalur 400 kV circuit and NNTPS – Kalivandapattu 400 kV circuit.*

3. Director (PSP&A-II), CEA, informed that the following transmission system was approved under ISTS in the 35th meeting of SCPSPSR held on 04.01.2013, for grant of LTA to NNTPS (2x500 MW):

- *NNTPS switchyard – Ariyalur (Villupuram) 400 kV D/c line along with termination bays at Ariyalur substation*
- *Ariyalur (Villupuram) 400 kV, 2x500 MVA S/S. In the 37th meeting of SCPSPSR held on 31.07.2014, it was decided that Ariyalur 765/400 kV substation would be implement by TANTRANSCO.*

4. CTU informed that LTA had been granted to NLC for 334 MW capacity, which was subsequently reduced to 314.79 MW on account of auxiliary consumption. Out of the total installed capacity of 1000 MW at NNTPS, 600 MW is allocated to Tamil Nadu and 66 MW is allocated to NLC for mining load.

5. NLC representative informed that the first unit of NNTPS has been declared under commercial operation w.e.f. 28.12.2019 and COD of 2nd unit is expected by 27th March, 2020. He requested for timely approval and implementation of alternate arrangement for evacuation of power from 2nd Unit of NNTPS, in the absence of availability of Ariyalur substation of Tamil Nadu.

6. CTU representative informed that on the request of NLC vide email dated 19.12.2019, LTA of 156.56 has been operationalized w.e.f. 22.12.2019 upon commissioning of first Unit (500 MW) of NNTPS, through LILO of Neyveli-Puducherry line at NNTPS and margins available in the existing transmission system. CTU representative further informed that the transmission system for LTA under the scope of POWERGRID, viz., NNTPS switchyard – Ariyalur (Villupuram) 400 kV D/c line is under advanced stage of completion and only 6-7 km of stringing is left to be done. The transmission line is expected to be ready for commissioning by 26th March 2020.

8. TANGEDCO/TANTRANSCO representative stated that 400 kV connectivity to Ariyulur substation is to be established through LILO of both circuits of Pagalur – Kalivandaattu 400 kV (quad) D/c lines and this LILO section of the line has already been completed by them. Further, with respect to the 765/400 kV Ariyalur substation, the works are being carried out by BHEL and the same are expected to be completed within 3 months, i.e. by June 2020. Upon enquiry of the present status of the substation, it was informed that 2x1500 MVA, 765/400 kV ICTs (6 nos. of 500 MVA single phase units) have already been installed and associated bays are under advanced stage of completion. Further, laying of control cables is being done and thereafter testing would be carried out.

9. CTU/TANTRANSCO informed that the matter regarding commissioning of transmission system for evacuation of power from 2nd Unit of NNTPS was also discussed in 36th TCC / 37th SRPC meeting, wherein TANTRANSCO had informed that the expected commissioning schedule of Ariyalur S/s, with best efforts, was June, 2020. During the meeting, it was deliberated that pending commissioning of Ariyalur S/s, NNTPS – Ariyalur 400 kV D/c line may be connected with LILO section of Pugalur – Kalivandapattu 400 kV D/c line at Ariyalur, to form NNTPS – Pugalur 400 kV circuit and NNTPS – Kalivandapattu 400 kV circuit, as interim arrangement. In view of the above, CTU informed that system studies were carried-out for evacuation of entire power from 2x500 MW units of NNTPS, wherein it was observed that with the existing transmission system, there might be some constraints in evacuation of power from NNTPS under certain conditions, specially in case when the NLC generations connected at 230 kV level are not running to their full capacity. Under such conditions, NLC may have to back *down its generation. Accordingly, the alternate arrangement has been proposed. System study results carried out by CTU are enclosed at Exhibit-I.*

10. POSOCO representative stated that in case the generators connected at 230 kV level in NLC complex do not generate to their full capacity, the 2x250 MVA ICTs at Neyveli TS-II may get overloaded. Further, under such situations, N-1 criteria at NNTPS ICTs also gets violated. In this regard, it was informed that the issue of overloading of ICTs shall get resolved with implementation of 765/400 kV Ariyalur substation. Further, TANGEDCO is implementing Manalmedu and Cuddalore 400/230 kV substations for distribution and configuration of loads which shall further address the ICT overloading issues.

11. POSOCO representative further informed that if 2nd Unit (500 MW) of NNTPS is synchronized without the proposed interim arrangement, then the 2x500 MVA ICTs at NNTPS and 2x250 MVA ICTs at NLC-II will be heavily loaded (with full generation of other generators in Neyveli complex). The loading in these ICTs will further increase File No.CEA-PS-12-14(12)/1/2018-PSPA-II Division I/9550/2020 604 Page 4 of 5 in case of reduction in generation at NLC-I or at NLC-II Stage-I (Unit-1, 2 &3 connected at 230 kV). The contingency of 400 kV NLC-II – Pugalur line will also result in increase in loading of ICTs at NNTPS and NLC-II.

12. POSOCO represented also informed that with proposed interim arrangement, the loading of ICTs at NNTPS and NLC-II will reduce marginally. Also, as there will be two evacuating lines to Pugalur (one from NNTPS and NLC-II each), the 'N-1' of these lines will not increase the loading of ICTs at NNTPS and NLC-II significantly. However, with the interim arrangement also, the generation reduction at NLC-I and NLC-II Stage-I (Unit-1,2&3) will cause overloading and 'N-1' non-compliance of ICTs at NNTPS and NLC-II. The tripping of both ICTs at NNTPS may result in: • Tripping of both 250 MVA, 400/230 kV ICTs at NLC-II • Overloading of 230 kV Pondy – Vilianur and 230 kV Pondy – Bahoor lines. In order to maintain the loading of ICTs at NNTPS and NLC-II within permissible limits, either sufficient generation at NLC-I and NLC-II Stage-I (Unit-1,2&3) may be ensured or proper rearrangement of feeders may be carried out by TANTRANSCO. The option for implementation of suitable SPS (in case of overloading of ICTs, reduction in generation/tripping of units at NNTPS/NLC-II Stage-II) may also be explored for 'N-1' compliance of ICTs at NNTPS and NLC-II. System study results provided by POSOCO is at Exhibit-II.

13. After detailed deliberations, it was agreed from system study point of view that the NNTPS - Ariyalur 400 kV D/c line can be connected with one circuit of LILO section of Pugalur – Kalivandapattu 400 kV D/c line at Ariyalur, to form NNTPS – Pugalur 400 kV circuit and NNTPS – Kalivandapattu 400 kV circuit, as an interim arrangement. This interim arrangement would help in evacuation of power from NNTPS. TANTRASCO was advised to commission the Ariyalur S/S by June 2020.

20. Based on the recommendation of the CEA, we approve that the *NNTPS - Ariyalur 400 kV D/c line can be connected with one circuit of LILO section of Pugalur – Kalivandapattu 400 kV D/c line at Ariyalur, to form NNTPS – Pugalur 400 kV circuit and NNTPS – Kalivandapattu 400 kV circuit,* as an interim arrangement.

21. In support of actual COD of Asset-1, the Petitioner has submitted CEA Energisation Certificate dated 5.6.2020 under Regulation 43 of the Central Electricity Authority (Measures relating to Safety and Electric Supply), Regulations 2010.

22. The Petitioner has submitted the RLDC Charging Certificate dated 28.7.2020 in accordance with Regulation 5(2) of CERC (Terms and Condition of Tariff) and certifying that trial operation was completed from 16:05 hrs on 7.7.2020 to 16:05 hrs on 8.7.2020 for Asset-1. The Petitioner has also submitted the CMD Certificate for Asset-1 as required under the Grid Code and self-declaration COD letter dated dated 7.7.2020.

23. Taking into consideration the CEA Energization Certificate, RLDC Charging Certificate and CMD Certificate, and interim arrangement approval given by CEA vide letter dated 9.3.2020, the COD of Asset-1 is approved as 9.7.2020 for tariff purpose.

Capital Cost

24. 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 assets before the date of commercial operation;
(i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
(j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
(k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;
(l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
(m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;
(n) Expenditure on account of change in law and force majeure events; and
(o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

(a) Capital cost admitted by the Commission prior to 1.4.2019 duly F by excluding liability, if any, as on 1.4.2019;
(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
(c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;
(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

(4) The capital cost in case of existing or new hydro generating station shall also include:
(a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
(b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

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

(a) The assets forming part of the project, but not in use, as declared in the tariff petition;

(b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

(c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;

(d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and

(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment."

25. The Petitioner has claimed the capital cost incurred as on COD and ACE projected to be incurred in respect of the Asset-1 and has submitted the Auditor's Certificate dated 15.9.2020 in support of the same:

(₹ in lakh)

FR Approved Cost	RCE-I	Capital Cost as on COD	Projected ACE			Capital Cost as on 31.3.2024
			2019-20	2020-21	2021-22	
15113.38	16193.04	12260.50	0.00	1513.39	937.62	14711.51

Cost Over-run

26. The Petitioner has submitted RCE vide affidavit dated 5.11.2020 (main petition). The estimated completion cost in respect of Asset-1 as claimed by the Petitioner is as follows:

(₹ in lakh)

FR Apportioned Approved Capital Cost	RCE Apportioned Approved Capital Cost Apportioned approved capital cost (as per RCE-I)	Estimated Capital Cost (as on 31.3.2024)
15113.38	16193.04	14711.51

27. The Petitioner has submitted that RCE for the instant project was approved by the competent authority (CMD) vide memorandum dated 27.3.2020. The Petitioner has further submitted that the estimated completion cost in respect of Asset-I is within the apportioned approved RCE cost.

28. The Petitioner has submitted that the following major reasons of cost variation with respect to FR:

Asset-1:

i. **Increase in taxes and duties:** There is an increase of ₹584 lakh in the completion cost based on the actual taxes paid.

ii. **Decrease in IEDC and Other Overheads:** There is a reduction of ₹1236 lakh in the completion cost under the head Overheads based on the actual expenditure incurred.

iii. **Increase in IDC:** There is an increase of ₹80.71 lakh in completion cost based on the actual IDC to be paid.

29. We have considered the submissions of the Petitioner. As compared to FR apportioned approved cost of ₹15113.38 lakh, the estimated completion cost as on 31.3.2024 is ₹14711.51 lakh which is within the FR apportioned approved capital cost as well as RCE cost of ₹16193.04 lakh and, therefore, there is no cost over-run with regard to Asset-1.

Time over-run

30. As per the IA dated 11.5.2017, the transmission project was scheduled to be commissioned within 13-26 months progressively from the date of IA. Accordingly, the scheduled commissioning date comes to 11.6.2018 to 11.7.2019 (progressively). However, the actual commissioning of the Asset-1 is as follows:

I.A. date	SCOD	COD	Time over-run
11.5.2017	11.6.2018 to 11.7.2019	9.7.2020	364 days

31. Thus, there is time over-run of 364 days in respect of Asset-1.

32. The reasons attributed by the Petitioner for this time over-run in case of the Asset-1 includes the severe RoW issues encountered in State of Tamil Nadu as well as the COVID-19 pandemic because of which the activities of said line was affected and construction works was delayed. As per the Petitioner, the RoW issues and court cases faced during the construction of Asset-1 are as follows:

A. <u>ROW issue: Cuddalore District: Location: 2/0:</u>

i) The work could not be commenced due to severe objection raised by the one of the landowners at Periyakapankulam Village, Virudhachalm Taluk, Cuddalore District.

ii) The Petitioner, vide letters dated 24.7.2017, 4.12.2017 and 11.8.2018 requested DC, Cuddalore for support in smooth completion of the work and for assessment of land compensation for tower base area and line corridor as per GO.63.

iii) The Petitioner, vide letter dated 17.6.2019, filed a petition under Section 16(1) of Indian Telegraph Act 1885 to District Collector, Cuddalore for removal of obstruction and issue permission to access the premises and to take up the construction works at location 2/0 as the landowner has not allowed the

Petitioner to carry out the construction works demanding abnormal compensation.

iv) The Petitioner, vide letter dated 17.6.2019, submitted a letter to Tahsildar, Virudhachalm Taluk, Cuddalore for removal of obstruction and to take up the construction works at location 2/0 as the tower erection works at the preceding and succeeding tower no. 1/0 and 3/0 were already completed.

v) The RoW issues were prevailing in the State of Tamil Nadu for construction of transmission lines by the Petitioner and TANTRANSCO which were reviewed by the Chief Secretary to the Government of Tamil Nadu with the respective District Collectors (through VC) on 22.7.2019 at Secretariat Office, Chennai during which it was informed that against the petition filed by the Petitioner, an enquiry is scheduled on 30.7.2019.

vi) Accordingly, the enquiry was held on 30.7.2019 under Section 10 of the Indian Telegraph Act 1885. However, the landowner did not appear for hearing. The landowner again absented himself from enquiry scheduled on 28.8.2019 despite having been issued the notice on both the occasions. The Petitioner, therefore, requested the DC to issue permission to access the premises under section 16(1) of the Indian Telegraph Act.

vii) On 30.8.2019, DC, Cuddalore issued permission to access the premises to carry out the work at location 2/0, survey no. 56/8B under section 16(1) of Indian Telegraph act 1885. The Petitioner, vide letter dated 4.9.2019 requested Dy. Superintendent of Police, Neyveli, Cuddalore for providing Police Protection to execute construction works at location no. 2/0 falling in survey no. 56/8B.

viii) On 22.9.2019, DSP visited the RoW location 2/0. Subsequently, foundation work at location 2/0 was commenced from 25.9.2019 with police protection and was completed by 30.9.2019. Further, Tower erection commenced on 6.2.2020 and was completed by 15.2.2020. However, due to COVID-19 pandemic, the works were held up from 25.3.2020.

ix) The Petitioner vide letter dated 15.4.2020, requested to DC, Cuddalore to provide permission for the movement of men and material for the stringing works. Subsequently, stringing works commenced with less manpower strength and was completed by 4.5.2020. Spacering, Jumpering works and OPGW stringing works were completed thereafter.

B. <u>ROW issue: Cuddalore district: Location: 11/0-12/0:</u>

i) The foundation works at location 11/1, 11/0 and 12/0 commenced on 3.10.2018, 11.10.2018, 4.12.2018 and were completed by 26.10.2018, 27.11.2018 and 15.12.2018 respectively. Also, tower erection in all these three locations completed by 26.12.2018. However, stringing at the section 11/0 to 12/0 could not be commenced due to the RoW issues raised by the landowners in this corridor area.

ii) The Petitioner, vide letter dated 24.7.2019, submitted a letter to Tahsildar, Virudhachalm Taluk, Cuddalore requesting for removal of obstruction so as to be able to take up the construction works. Accordingly, an enquiry, under Section 10(4) of Indian Telegraph Act 1885, was held on 29.7.2019. However, the landowners did not attend the enquiry. Again on the next dates, i.e., 1.8.2019 and 28.8.2019, no one attended the enquiry from the landowners' side. After this, the Petitioner, vide letter dated 5.8.2019 requested District Collector, Cuddalore for removal of obstruction and issue permission to access the premises to take up the stringing works from 11/0-12/0 under Section 16(1) of Indian Telegraph Act 1885. However, on 24.9.2019, some of the landowners attended the meeting and demanded that the compensation should be paid similar to 8th tower and accepted for carrying out the work. On 5.10.2019, DC, Cuddalore issued the enter upon permission to carry out the work under section 16(1) of Indian Telegraph act 1885. Thereafter 10 number of Writ Petitions (objections) were registered on 16.10.2019. The Petitioner has filed details of the Writ Petitions with general and specific issues which are not reproduced here for the sake of brevity.

iii) On 6.11.2019, all the above ten Writ Petitions were disposed of by the High Court of Madras. Thereafter, stringing works commenced on 5.1.2020 and was completed by 17.1.2020.

C. RoW issue: Cuddalore District: Location: 18/1:

i) The Petitioner, vide letters dated 24.7.2017 and 4.12.2017 requested DC, Cuddalore for arranging a methodology for assessing the payment of compensation towards the damages in RoW area as per GO.63. Vide letter dated 11.8.2018 DC, Cuddalore was requested for assessment of land compensation for tower base area and line corridor as per GO.63.

ii) Vide letter dated 16.7.2019, the Petitioner submitted a letter to Tahsildar, Virudhachalm Taluk, Cuddalore for removal of obstruction so as to be able to take up the construction works at location 18/1.

iii) Vide letter dated 18.9.2019, the Petitioner submitted a petition under Section 16(1) of Indian Telegraph Act 1885 to District Collector, Cuddalore for removal of obstruction and issue Enter upon permission to take up the construction works at location 18/1.

iv) With continuous follow up by the Petitioner and Revenue Officials, the landowner gave consent to carry out the works.

v) Thus, foundation works at location 18/1 were commenced on 19.9.2019 with police protection and were completed by 24.9.2019. Thereafter, tower erection works were commenced on 31.1.2020 and completed by 5.2.2020.

D. ROW issue: Villupuram (new-Kallakurchi) district: Location: 38/0-39/0:

i) The Survey works commenced in July 2017. However, the landowner showed a stiff resistance for the survey works because of which no works could be commenced due to the resistance.

ii) The Petitioner, vide letter dated 29.6.2018, requested to DC, Villupuram for assessment of land compensation in Ulundurpet and Sankarapuram Taluks for tower base area and transmission line corridor as per GO.

iii) On 5.8.2018, the Petitioner applied online for construction of 400 kV D/C transmission line crossing the Railway span at km 196/300-400 between Parikkal and Ulundurpet Railway Station.

iv) The Petitioner, vide letter dated 21.1.2019, requested DC, Villupuram, for assessment of crop/tree for the damage that occurs due to construction works and land compensation for tower base area and line corridor as per GO.

v) The advocate of the landowner, sent a legal notice dated 5.4.2019 on behalf of the landowner, for the survey made in the land. As in a few places during rainy season, the surplus water from (a) Periya Eari (lake) in survey no. 337, (b) Thangal Eari in survey no.310 and (c) Kaliyan Thangal Eari in survey no. 47 started flowing to Padur Eari through the land surveyed on behalf of the Petitioner. It was further alleged that the transmission lines constructed will be affected by the blasting in the basalt well in the nearby survey no. 33, 37 and 39. Accordingly, through legal notice, it was requested by the landowner to re-consider and re-route the construction of transmission line from other side of his land.

vi) The Petitioner vide letter dated 12.4.2019 requested District Collector, Villupuram, for removal of obstruction and issue permission to access the premises under Section 16(1) of Indian Telegraph Act 1885 so as to be able to take up the works at location 38/0 and 39/0 in the land falling in survey no. 33 and 42. The DC, Villupuram, sent a communication dated 30.4.2019 to the Police Department to provide required protection to the Petitioner to execute the work.

vii) The Petitioner, vide letter dated 25.5.2019, requested Dy. Superintendent of Police, Ulundurpet, Villupuram, for providing police protection to execute construction works at location no. 38/0 and 39/0 falling in survey no. 33 and 42.

viii) On 28.5.2019, one of the landowners submitted a petition to the DC, Villupuram, alleging that the PowerGrid officials tried to commence the work with police force, and that if transmission towers are erected and transmission lines are laid in his land, the pathway to the farm will be obstructed and further during rainy season there will be no path for water flow to reach the nearby water pools. Besides, further digging of the bore well will affect the transmission line and hence he submitted his objection for execution of the construction works in his land.

ix) A Writ Petition No.16165 of 2019 was filed by the landowner on 6.6.2019 seeking to issue Writ of Mandamus, forbearing the respondents 5 and 6 from entering and erecting overhead line transmission tower in Petitioner's land situated in S.No. 42, 36 and 33 in Senkurichi Village, Ulundurpettai Taluk, Villupuram District till the completion of enquiry by 3rd Respondent as ordered by 1st respondent in his proceedings.

x) On 4.7.2019, the case was disposed of by the High Court of Madras and directed the 1st respondent (DC, Villupuram) to pass order in the obstruction petition.

xi) The Petitioner, vide letter dated 12.7.2019, submitted the copy of judgment passed in W.P.No.16165 of 2019 and requested District Collector, Villupuram, to issue permission to access the premises under Section 16(1) of Indian Telegraph Act 1885 to take up the works at location 38/0 and 39/0.

xii) On 14.8.2019, DC, Villupuram, issued permission to access the premises to carry out the work under Section 16(1) Indian Telegraph act 1885. The Petitioner, vide letter dated 19.8.2019, requested Dy. Superintendent of Police for providing police protection to execute construction works. Thereafter, foundation works at location 38/0 and 39/0 were commenced on 20.8.2019 and 26.8.2019 and were completed by 31.8.2019 and 5.9.2019 respectively. Subsequently, tower erection works at location 38/0 and 39/0 commenced on 7.9.2019 and 18.9.2019 and completed by 10.9.2019 and 25.9.2019 respectively.

xiii) The Petitioner, vide letter dated 1.11.2019, submitted Form-B and requested to DEE/General, Southern Railway, Tiruchirapalli to issue for power block and tariff block on 4.12.2019 to carry out stringing works in the Railway Crossing at km196/300-400 between Parikkal and Ulundurpet Railway Station.

xiv) On 4.11.2019, DEE/General Southern Railway, Tiruchirapalli sent a letter granting the power block and tariff block as per the request from the Petitioner. However, due to heavy rain and paddy cultivation, works could not be taken up on the approved date.

xv) On 9.3.2020, the Petitioner requested for power block and tariff block on 20.3.2020. Accordingly, approval for works issued vide letter dated 11.3.2020. Thus, stringing works were completed by 25.3.2020. However, due to COVID-19 pandemic lockdown, works could not be carried out further.

33. The Respondent, TANGEDCO, vide affidavit dated 15.11.2021 has submitted that the transmission project was scheduled to be commissioned in 13-26 months progressively from the date of IA. The date of IA is 11.5.2017 and hence the commissioning schedule comes to 10.6.2018 to 10.7.2019 progressively against which the Asset-1 has been put under commercial operation w.e.f. 9.7.2020 and the Asset-2 is yet to be commissioned. Therefore, there is time over-run of of 1 year in case of Asset-1 and the commissioning of the Asset-2 is anticipated on 31.12.2022.

34. Per contra, the Petitioner vide affidavit dated 24.11.2021 has submitted that the contentions of the Respondent, TANGEDCO, regarding time over-run due to RoW issues, litigation, law and order problems were controllable factors, the Regulation 22(2) of the 2019 Tariff Regulations 2019 reads as under:

> *"2) The "uncontrollable factors" shall include but shall not be limited to the following:*
> *a. Force Majeure events;*
> *b. Change in law; and*
> *c. Land acquisition except where the delay is attributable to the generating company or the transmission licensee."*

35. The Petitioner has further submitted that the details of time over-run have already been placed on record and has prayed to the Commission to consider the same.

36. We have considered the detailed submissions of the Petitioner and TANGEDCO and perused the documents available on record. As per IA dated 11.5.2017, the Asset-1 was scheduled to be put into commercial operation within 13-26 months from the date of IA, i.e., 11.7.2019. However, the transmission asset was put under commercial operation on 9.7.2020, with a time over-run of 364 days. The Petitioner has submitted

that the time over-run was on account of RoW problems at Location No. 2/0, Location No. 11/0-12/0, Location No. 18/1, Location No. 38/0-39/0, court cases and Covid-19 Pandemic. The submissions made by the Petitioner for time over-run in execution of the Asset-1 are discussed in the succeeding paragraphs.

(a) **RoW problems:**

37. The Petitioner has submitted that it has faced RoW problems at Location 2/0, Location No11/0-12/0, Location No.18/1, and Location No 38/0-39/0. It is observed that the Petitioner has furnished details of correspondences exchanged with various authorities along with supporting documents and explained it's position. It is apparent from the explanation and the documents filed on affidavit by the Petitioner that RoW issues from 24.7.2017 to 15.4.2020 at various locations, viz., locations 2/0 (from 24.7.2017 to 15.4.2020), 11/0-12/0 (from 24.7.21019 to 5.10.2019), 18/1 (from 24.7.2017 to 19.9.2019), 38/0-39/0 (from 24.7.2017 to 19.9.2019), affected the execution of Asset-1.

38. In our view, the Petitioner made its efforts to resolve the RoW issues on its own and also through approaching the concerned authorities as is apparent from the supporting documents submitted by the Petitioner. Accordingly, the time over-run from 11.7.2019 to 4.5.2020 due to RoW problems was beyond control of the Petitioner. Therefore, delay of 298 days on account of RoW issues, being beyond the control of the Petitioner, is condoned.

39. Though, the Petitioner has resolved all the RoW problems by 4.5.2020, the Asset-1 was commissioned on 9.7.2020. The Petitioner has not submitted any valid justification for the time period from 4.5.2020 to 9.7.2020. Therefore, we find that the

time over-run for this period(4.05.2020 to 9.7.2020) of 66 days was not beyond the control of the Petitioner and the same is not condonable.

(b) **Court cases:**

40. The Petitioner has submitted that at Location No. 11/0-12/0 filed 10 no. of Writ Petitions which were registered on 16.10.2019 and PGCIL filed counter affidavits in all the Writ Petitions. Hon'ble Madras High Court disposed all the Writ Petitions on 6.11.2019.

41. We have gone through the submissions of the Petitioner. The time over-run due to court cases is subsumed in the RoW problems. Hence, the issues of court cases are not dealt separately.

42. Accordingly, in view of the above discussions, the time over-run from 11.7.2019 (SCOD) to 4.5.2020 (298 days), out of the total time over-run of 364 days is condoned. The delay of balance 66 days from 4.5.2020 to 9.7.2020 (COD) is not condoned.

43. The details of time over-run condoned/not condoned in case of the Asset- 1 are as under:

SCOD as per IA	Actual COD	Time Over-run	Time Over-run condoned	Time Over- run not condoned
11.7.2019	9.7.2020	364 days	298 days	66 days

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

44. The Petitioner has claimed the IDC in respect of Asset-1 and has submitted the statement showing computation of IDC, discharge of IDC liability as on date of commercial operation and thereafter as under:

(₹ in lakh)

IDC as per Auditor Certificate	IDC Discharged up to COD	IDC discharged during 2020-21	IDC discharged during 2021-22
855.72	664.44	179.19	12.09

45. We have considered the submissions of the Petitioner. As discussed above in this order, the time over-run in the commissioning of Asset-1 has been partially condoned. Accordingly, the IDC on cash basis up to the COD has been worked out based on the loan details given in the statement showing discharge of IDC and Form-9C for Asset-1. The IDC claimed and considered as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination, subject to revision at the time of truing up, is as follows:

(₹ in lakh)

Assets	IDC as per Auditor Certificate (A)	IDC disallowed (B)	IDC Allowed (C)=(A)-(B)	Undischarged IDC (D)	IDC allowed on COD (E)=(C)-(D)	IDC discharged in FY 2020-21 (F)	IDC discharged in FY 2021-22 (G)
Asset-1	855.72	98.43	757.29	134.42	622.87	134.42	0.00

46. Further, the Petitioner has submitted that the entire amount of IEDC for Asset-1 has been discharged up to COD. As the time over-run for the instant Asset-1 has been partially condoned. Keeping this in view, the details of IEDC claimed as per Auditor's Certificate, IEDC disallowed and IEDC allowed is as follows:

(₹ in lakh)

Assets	IEDC as per Auditor certificate (A)	IEDC disallowed due to time overrun not condoned (B)	IEDC allowed (C) = (A-B)
Asset-1	656.18	37.50	618.68

Initial Spares

47. Regulation 23(d) of the 2019 Tariff Regulations provides that Initial Spares shall be capitalised as a percentage of plant and machinery cost up to cut-off date, subject to the following ceiling norms:

> *"(d) Transmission System*
>
> *(i) Transmission line- 1.00%*
> *(ii) Transmission sub-station*
> - *Green Field- 4.00%*
> - *Brown Field- 6.00%*
>
> *(iii) Series Compensation devices and HVDC Station- 4.00%*
> *(iv) Gas Insulated Sub-station (GIS)*
> - *Green Field- 5.00%*
> - *Brown Field- 7.00%*
>
> *(v) Communication System- 3.50%*
> *(vi) Static Synchronous Compensator- 6.00%"*

48. The Initial Spares in respect of Asset-1, as claimed by the Petitioner vide affidavit dated 5.11.2021, are as follows:

(₹ in lakh)

Particulars	Plant and machinery cost	Initial Spares claimed	Initial Spares Claimed (%)	Ceiling limit as mentioned as per Regulation (%)
Transmission line	13199.61	131.24	0.99	1.00

49. We have considered the submissions of Petitioner. Based on the information available on record, the Initial Spares for the Asset-1 are allowed as per respective percentage of the Plant and Machinery Cost as on the cut-off date on individual basis. The Initial Spares allowed for the Asset-1 are as follows:

Particulars	Plant and Machinery cost (excluding IDC/IEDC, Land cost and Cost of Civil Works) (₹ in lakh)	Initial Spares claimed (₹ in lakh)	Norms as per 2019 Tariff Regulations (%)	Initial Spares allowable (₹ in lakh)	Initial Spares disallowed (₹ in lakh)	Initial Spares Allowed (₹ in lakh)
	A	B	C	D=(A-B)*C/(100-C)	E=B-D	
Transmission line	13199.61	131.24	1.00%	132.00	NIL	131.24

50. Initial Spares claimed in respect of the transmission asset are within the norms specified in the 2019 Tariff Regulations. Therefore, the Initial Spares have been allowed as claimed by the Petitioner.

Capital Cost allowed as on COD

51. The capital cost allowed as on COD in respect of the Asset-1 is as follows:

(₹ in lakh)

Capital Cost claimed as on COD (Auditor Certificate) (A)	IDC Disallowed (B)	Undischarged IDC as on COD (C)	IEDC Disallowed (D)	Capital Cost as on COD (E) = (A-B-C-D)
12260.50	98.43	134.42	37.50	11990.15

Additional Capital Expenditure (ACE)

52. 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. "

53. The Petitioner has claimed that the ACE incurred/projected to be incurred is mainly on account of balance/retention payments and hence the same is claimed under

Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The Petitioner has claimed capital cost as per the cash IDC discharge as on 31.3.2024 as under:

(₹ in lakh)

Assets	FR Approved Cost	RCE-I	Capital Cost up to COD	Projected ACE*		Capital Cost as on 31.3.2024
				2020-21	2022-23	
Asset-1	15113.38	16193.04	12069.22	1692.58	949.71	14711.51

**Including Accrual IDC*

54. The Commission vide technical validation letter dated 30.9.2021 directed the Petitioner to submit package-wise and vendor-wise details of the Additional Capital Expenditure (ACE) claimed in 2019-24 period for the Asset-1. In response, the Petitioner has submitted liability flow statement and the package-wise and vendor-wise details of the ACE claimed including details of balance and retention payments vide affidavit dated 20.10.2021 which is as follows:

(₹ in lakh)

Assets	Part name	Particulars (TL/SS)	Yr. of actual capitalization	Outstanding liability as on COD	Discharge of liability			Addition to the gross block			Outstanding liability as on 31.3.2024
					20-21	21-22	Total (19-24)	20-21	21-22	Total	
Asset-1	Unitech Power Transmission ltd.	TL	20-21	540.81	480.62	60.19	540.81	232.76	0.00	232.76	NIL
Asset-1	Compensation	TL	20-21	0.00	0.00	0.00	0.00	800.00	877.43	1677.43	NIL
Total				540.81	480.62	60.19	540.81	1032.76	877.43	1910.19	_

55. We have considered the submissions made by the Petitioner. The ACE claimed by the Petitioner has been allowed under Regulation 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations on account of balance and retention payments for works already executed. Accordingly, the ACE allowed for the 2019-24 period for Asset-1 is as follows:

(₹ in lakh)

Particulars	2020-21	2021-22
ACE claimed as per Auditor's Certificate	1513.39	937.62
Add: IDC Discharged	134.42	0.00
ACE allowed	**1647.81**	**937.62**

56. The capital cost considered for the Asset-1 for the 2019-24 tariff period is as under:

Capital Cost up to COD	ACE 2019-24		Capital Cost as on 31.3.2024
	2020-21	2022-23	
11990.15	1647.81	937.62	14575.59

Debt-Equity ratio

57. 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.

(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."

58. The debt-equity considered for the purpose of computation of tariff for the 2019-24 tariff period for Asset-1 is as follows:

Funding	**Capital Cost as on COD (₹ in lakh)**	**%**	**ACE during 2019-24 (₹ in lakh)**	**%**	**Capital Cost as on 31.3.2024 (₹ in lakh)**	**%**
Debt	8393.10	70.00	1809.80	70.00	10202.91	70.00
Equity	3597.05	30.00	775.63	30.00	4372.68	30.00
Total	**11990.15**	**100.00**	**2585.43**	**100.00**	**14575.58**	**100.00**

Depreciation

59. Regulation 33 of the 2019 Tariff Regulations provides as under:

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

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

(2) The value base for the purpose of depreciation shall be the capital cost of the

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

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

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

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

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

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

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

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

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

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

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

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

capitalized asset during its useful services.

(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."

60. The depreciation has been worked out considering the admitted capital cost as on COD. The weighted average rate of depreciation (WAROD) at Annexure has been worked as per the rates of depreciation specified in the 2019 Tariff Regulations. The depreciation allowed in respect of Asset-1 is as follows:

(₹ in lakh)

	Particulars	**2020-21 (Pro-rata 266 days)**	**2021-22**	**2022-23**	**2023-24**
	Depreciation				
A	Opening Gross Block	11990.15	13637.97	14575.59	14575.59
B	Additional Capitalisation	1647.81	937.62	0.00	0.00
C	Closing Gross Block (A+B)	13637.97	14575.59	14575.59	14575.59
E	Average Gross Block (A+C)/2	12814.06	14106.78	14575.59	14575.59
D	Freehold Land	0.00	0.00	0.00	0.00
F	Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28
G	Balance useful life of the asset	35	35	34	33
H	Aggregate Depreciable Value	11532.66	12696.10	13118.03	13118.03
I	**Depreciation during the year**	**493.07**	**744.84**	**769.59**	**769.59**
J	Cumulative Depreciation	493.07	1237.91	2007.50	2777.09

	Particulars	2020-21 (Pro-rata 266 days)	2021-22	2022-23	2023-24
K	Remaining Depreciable Value (H-J)	11039.59	11458.19	11110.53	10340.94

Interest on Loan (IoL)

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

> *"**32. Interest on loan capital:** (1) The loans arrived at in the manner indicated in regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.*
>
> *(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.*
>
> *(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered 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."*

62. The Petitioner has claimed the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate submitted by the Petitioner, in accordance with Regulation 32 of the 2019 Tariff Regulations. The IoL allowed for Asset-1 is as follows:

(₹ in lakh)

	Particulars	2020-21 (Pro-rata 266 days)	2021-22	2022-23	2023-24
	Interest on Loan				
A	Gross Normative Loan	8393.10	9546.57	10202.91	10202.91
B	Cumulative Repayments upto Previous Year	0.00	493.07	1237.91	2007.50
C	Net Loan-Opening (A-B)	8393.10	9053.50	8965.00	8195.41
D	Additions	1153.47	656.33	0.00	0.00
E	Repayment during the year	493.07	744.84	769.59	769.59
F	Net Loan-Closing (C+D-E)	9053.50	8965.00	8195.41	7425.82
G	Average Loan (C+F)/2	8723.30	9009.25	8580.20	7810.61
H	Weighted Average Rate of Interest on Loan (in %)	7.3062	7.3096	7.3098	7.3128
I	**Interest on Loan (G*H)**	**464.47**	**658.54**	**627.20**	**571.17**

Return on Equity (RoE)

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

> ***"30. Return on Equity**: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.*
>
> *(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of-river generating station with pondage:*
>
> *Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system*
>
> *Provided further that:*
>
> *i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre*

or protection system based on the report submitted by the respective RLDC;

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

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

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

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

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

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

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

Rate of pre-tax return on equity = 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:

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."

64. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE which will be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE in respect of the Asset-1 has been worked out and allowed as follows:

(₹ in lakh)

	Particulars	**2020-21 (Pro-rata 266 days)**	**2021-22**	**2022-23**	**2023-24**
	Return on Equity				
A	Opening Equity	3597.05	4091.39	4372.68	4372.68
B	Additions	494.34	281.29	0.00	0.00
C	Closing Equity (A+B)	4091.39	4372.68	4372.68	4372.68
D	Average Equity (A+C)/2	3844.22	4232.03	4372.68	4372.68
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500
F	MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782
H	**Return on Equity (D*G)**	**526.19**	**794.86**	**821.28**	**821.28**

<u>Operation & Maintenance Expenses (O&M Expenses)</u>

65. The O&M expenses claimed by the Petitioner for Asset-1 for the 2019-24 period are as follows:

(₹ in lakh)

Particulars	2020-21 (Pro-rata 266 days)	2021-22	2022-23	2023-24
Transmission Lines NNTPS Switchyard – Ariyalur (Villupuram): 400 KV D/C Twin Line				
D/C Twin/Triple Conductor (km)	73.74	73.74	73.74	73.74
Norms (₹ lakh/km)	0.912	0.944	0.977	1.011
Total O&M expenses	**49.01**	**69.61**	**72.04**	**74.55**

66. The norms specified under Regulation 35(3)(a) of the 2019 Tariff Regulations provide as follows:

*"**35. Operation and Maintenance Expenses:***

…

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

Particulars	***2019-20***	***2020-21***	***2021-22***	***2022-23***	***2023-24***
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*

Particulars	***2019-20***	***2020-21***	***2021-22***	***2022-23***	***2023-24***
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. We have considered the submissions of the Petitioner. The O&M Expenses have been worked out as per the norms specified in the 2019 Tariff Regulations and are as follows:

Asset-1 **(₹ in lakh)**

Particulars	**2020-21 (Pro-rata 266 days)**	**2021-22**	**2022-23**	**2023-24**
Transmission Lines NNTPS Switchyard – Ariyalur (Villupuram): 400 KV D/C Twin Line				
D/C Twin/Triple Conductor (km)	73.74	73.74	73.74	73.74
Norms (₹ lakh/km)	0.912	0.944	0.977	1.011
Total O&M expenses allowed	**49.01**	**69.61**	**72.04**	**74.55**

<u>Interest on Working Capital (IWC)</u>

68. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify as under:

*"**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. Definitions. -** In these regulations, unless the context otherwise requires:-*

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

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 11.25%.

70. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (ROI) considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, ROI for 2020-21 has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas ROI for 2021-22 onwards 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 thereon allowed are as follows:

Asset-1 **(₹ in lakh)**

	Particulars	2020-21 (Pro-rata 266 days)	2021-22	2022-23	2023-24
	Interest on Working Capital				
A	Working Capital for O&M Expenses (O&M expenses for one month)	5.60	5.80	6.00	6.21
B	Working Capital for Maintenance Spares (15% of O&M expenses)	10.09	10.44	10.81	11.18
C	Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	263.17	283.48	286.27	278.81
D	**Total Working Capital (A+B+C)**	**278.86**	**299.72**	**303.08**	**296.20**
E	Rate of Interest (in %)	11.25	10.50	10.50	10.50
F	**Interest on working capital (D*E)**	**22.86**	**31.47**	**31.82**	**31.10**

Annual Fixed Charges for the 2019-24 Tariff Period

71. The transmission charges allowed in respect of Asset-1 for the 2019-24 tariff period is as follows:

(₹ in lakh)

Particulars	2020-21 (Pro-rata 266 days)	2021-22	2022-23	2023-24
Annual Transmission Charges				
Depreciation	493.07	744.84	769.59	769.59
Interest on Loan	464.47	658.54	627.20	571.17
Return on Equity	526.19	794.86	821.28	821.28
O & M Expenses	49.01	69.61	72.04	74.55
Interest on Working Capital	22.86	31.47	31.82	31.10
Total	**1555.60**	**2299.32**	**2321.93**	**2267.69**

Filing Fee and the Publication Expenses

72. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses.

73. We have considered the submissions of the Petitioner. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with

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

Licence Fee & RLDC Fees and Charges

74. The Petitioner has sought reimbursement of licensee fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. 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 the 2019-24 tariff period.

Goods and Services Tax

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

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

Security Expenses

77. The Petitioner has submitted that security expenses for Asset-1 are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and consequential IWC.

78. The Petitioner has submitted that as per Regulation 35(3)(c) of the 2019 Tariff Regulations, security expenses and capital spares for transmission system will be allowed separately after prudence check and a separate petition for the same will be filed by the Petitioner. Therefore, in absence of the above, the Commission may not allow any ad-hoc expenditure on account of security expenses by escalating the actual of 2018-19 by 3.5% p.a., which will be against the stipulation of the Regulation 35(3)(c) of the 2019 Tariff Regulations and outside the ambit of the instant petition as well.

79. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses 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 Commission vide order dated 3.8.2021 in Petition No. 260/MP/2020 approved security expenses from 1.4.2019 to 31.3.2024. Therefore, the 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

80. 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

81. The Petitioner has prayed that the transmission charges for 2019-24 period may be recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and shall be shared by the beneficiaries and long-term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter State

Transmission Charges and Losses) Regulations, 2010 (hereinafter referred to as "the 2010 Sharing Regulations") as amended from to time.

82. The Respondent, TANGEDCO, vide affidavit dated 15.11.2021 has submitted as follows:

a) Consequent upon coming into force of Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020 (hereinafter referred to as "the 2020 Sharing Regulations"), it has become inevitable to segregate the capital cost of the assets in to 2010 Sharing Regulations regime and 2020 Sharing Regulations regime.

b) In its order in Petition No. 102 of 2016, dated 25.7.2016, the Commission has directed to split the capital cost under two heads viz., pre- PoC and post-PoC i.e., up to 30.6.2011 and beyond 30.6.2011 respectively. The components of the tariff had also been reworked based on the splitting of the capital cost based on the Pre-PoC and Post-PoC regime. On the same principles, there is a need to split the capital cost including ACE based on 2010 Sharing Regulation and 2020 Sharing Regulation i.e., up to 31.12.2020 and 1.1.2021 onwards. The YTC details up to 31.12.2020 and from 1.1.2021 is required to be split and the tariff components for the same needs to be worked out accordingly. This will give correct allocation of the transmission charges as per 2010 Sharing Regulation and 2020 Sharing Regulation as amended from time to time as provided in Regulation 43 of 2014 Tariff Regulation and Regulation 57 of 2019 Tariff Regulation respectively.

c) The Commission in its order dated 28.10.2021 in Petition No. 133/TT/2020 has observed the following:

> *"91. We have considered the submissions of the Petitioner and TANGEDCO. During 2004-09 and 2009-14 tariff periods (upto 30.6.2011), the transmission charges for inter-State transmission systems were being shared in accordance with the Tariff Regulations for the respective tariff periods. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission system was governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010 (2010 Sharing Regulations). 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 (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 Regulation and shall be recovered from the concerned DICs through Bills 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."*

d) In view of the above, the Commission may direct the Petitioner to split the capital cost of the asset and the tariff components on the basis of 2010 Sharing Regulations regime and 2020 Sharing Regulations 2020 regime and share the transmission charges accordingly. Also, it is prayed to direct the Petitioner to submit the details in the above manner in all the petitions.

83. In response, the Petitioner, vide affidavit dated 24.11.2021, has submitted as follows:

a) The submissions made by TANGEDCO are misconceived and deserve to be dismissed. The order dated 25.7.2016 was passed by the Commission with regard to the following assets:

(i) LILO of both circuit of 400kV D/C, Gazuwaka-Vijayawada line at Vemagiri

(ii) Extension of 400/220 kV Sub-station at Vijayawada under System Strengthening-VI of Southern Region Grid in Southern Region

b) The relevant extracts of the order in the above matter is as follows:

"8. The petitioner accepted that assets have been combined inadvertently from 1.4.2009 in Petition No. 367/TT/2014 for determination of truing up tariff for 2009-14 period and determination of tariff for 2014-19 period instead of from 1.7.2011. The petitioner has faced difficulties in billing based on combined tariff determined by the Commission in Petition No. 367/TT/2014. Therefore, the petitioner has approached this Commission to revise the combined tariff of Asset I and Asset II determined in the petition 367/TT/2014. The petitioner has sought the approval for separation of tariff of Asset I and Asset II from 1.4.2009 to 30.6.2011 ("Pre-POC period") and combined tariff from 1.7.2011 to 31.3.2014 ("Post-POC period")

10. We have considered the submission of the petitioner. Taking into cognizance of the philosophy prevailing as per the order dated 28.3.2008 in Petition No. 85/2007 (Suo-motu) prior to introduction of the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 that the transmission charges of Asset II is to be apportioned to the host state only, we feel that the tariff determined in the order dated 26.11.2015 in the petition 367/TT/2014 is to be separated between Asset I and Asset II upto 30.6.2011 to enable the recovery of the transmission charges from host State. The separate working of the tariff for the individual asset involves the determination of separate capital cost, change in opening equity, gross opening loan, and net normative opening loan as on 1.4.2009, the tariff of individual assets has been determined in accordance with the 2009 Tariff Regulations. Accordingly, separation of true up transmission tariff for block 2009- 14 has been worked out for the period up to 30.6.2011 and from 1.7.2011 to 31.3.2014 as discussed in the subsequent paragraph. The tariff determined in this order will supersede the tariff determination in the order dated 26.11.2015 in petition no 367/TT/2014 for the tariff period 2009-14 and 2014-19."

c) The error had occurred due to the incorrect filing by the Petitioner itself, who had inadvertently combined the assets from 1.4.2009 instead of 1.7.2011. This caused billing difficulties based on the combined tariff as determined by the Commission. Accordingly, the Commission had condoned the error made by the Petitioner.

d) Also, the Commission was introducing a regulatory change by way of notification of the 2010 Sharing Regulations which was applicable from 30.6.2011. After the notification of the 2010 Sharing Regulations, the manner of recovery of transmission charges of transmission systems underwent a complete change and in the above background, the Commission has passed the order quoted above. The order, however, was not a declaration of any ‘principle of law’ as is being contended by TANGEDCO.

e) Regarding the comparison between the 2010 Sharing Regulations and the 2020 Sharing Regulations, the manner of sharing has been modified based on the experience gained during the operation of the 2010 Sharing Regulations. There is no error in the present case made by the Petitioner while claiming the date of applicability of tariff order by combining the assets. Therefore, it is respectfully submitted that, the principle decided in the Order dated 25.7.2016 is not applicable at all and there can be no question of the Petitioner having to split the capital cost of the assets or the tariff component based on the 2010 Sharing Regulations and the 2020 Sharing Regulations.

f) As a matter of fact, TANGEDCO itself has filed a Writ Petition challenging the validity and vires of the 2020 Sharing Regulations notified by the Commission vide Writ Petition No. 4379/2021 before the High Court of Madras.

84. We have considered the rival contentions of the Petitioner and TANGEDCO. On careful consideration of the same, the Commission is of the opinion that the directions

of the Commission passed vide order dated 25.7.2016 in Petition No. 102 of 2016 are not applicable in the instant case. TANGEDCO has contended that the capital cost of Asset-1 should be split based on the 2010 Sharing Regulations and the 2020 Sharing Regulations and the yearly transmission charges should be determined accordingly. Besides, these contentions of TANGEDCO have already been considered and rejected by the Commission in order dated 30.6.2022 in Petition No.23/TT/2021 and dated 5.7.2022 in Petition No.662/TT/2020. However, in the instant case, TANGEDCO has additionally placed reliance on the Commission's order dated 25.7.2016 passed in Petition No.102/TT/2016. We have perused the order dated 25.7.2016. It is observed that in Petition No. 367/TT/2014 while claiming true up of the tariff of the 2009-14 tariff period and determination of tariff of the 2014-19 tariff period in respect of the assets under System Strengthening-VI of Southern Region Grid in Southern Region, the Petitioner had inadvertently combined the transmission assets put into commercial operation before and after the notification of the 2010 Sharing Regulations. This led to difficulties in billing and recovery of the tariff. Taking into consideration the inadvertent mistake of combining the assets on the part of the Petitioner, the Commission considered the individual capital cost of the asset put into commercial operation before the notification of the 2010 Sharing and after the notification of the Sharing Regulations and determined separate tariff in order dated 25.7.2016 in Petition No.102/TT/2016.

85. On perusal of the Commission's order dated 25.7.2016 in Petition No.102/TT/2016, we are of the view that it is not applicable to the present case as the facts and circumstances are entirely different. Thus, the issue raised by TANGEDCO for splitting the capital cost of the transmission asset and the tariff components on the basis of the 2010 Sharing Regulations and the 2020 Sharing Regulations regimes on

the lines of the Commission's order dated 25.7.2016 is misconceived and, therefore, rejected.

86. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems is governed by the 2010 Sharing Regulations and with effect from 1.11.2020, 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 the respective Sharing Regulations and shall be recovered from the concerned DICs through bill 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.

87. To summarise:

a. AFC allowed for the 2019-24 tariff period is as follows:

(₹ in lakh)

Particulars	**2020-21 (Pro-rata 266 days)**	**2021-22**	**2022-23**	**2023-24**
Asset-1	**1555.60**	**2299.32**	**2321.93**	**2267.69**

88. Annexure, hereinafter given forms part of the order.

89. This order disposes of Petition No. 75/TT/2021 in terms of the above findings and discussions.

sd/-	**sd/-**	**sd/-**
(P.K. Singh)	**(Arun Goyal)**	**(I.S. Jha)**
Member	**Member**	**Member**

ANNEXURE

2019-24	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE (in lakh)			Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)			
Capital Expenditure		**2020-21**	**2021-22**	**Total**			**2020-21**	**2021-22**	**2022-23**	**2023-24**
Transmission Line	11990.15	1647.81	937.62	2585.43	14575.59	5.28%	676.58	744.84	769.59	769.59
Total	**11990.15**	**1647.81**	**937.62**	**2585.43**	**14575.59**		**676.58**	**744.84**	**769.59**	**769.59**
					Average Gross Block (₹ in lakh)		**12814.06**	**14106.78**	**14575.59**	**14575.59**
					Weighted Average Rate of Depreciation		**5.28%**	**5.28%**	**5.28%**	**5.28%**