

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 661/TT/2020

Coram:

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

Date of Order: 30.11.2021

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and determination of transmission tariff from COD to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of 2 numbers of 765 kV line bays and 1 number of 240 MVAR Switchable Line Reactor on each circuit of Chilakaluripeta - Cuddapah 765 D/C line at Cuddapah (2 numbers of 240 MVAR Switchable Line Reactors) under "Sub-station Works Associated with Strengthening of Transmission System beyond Vemagiri" in Southern Region.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2, Sector 29,
Gurgaon – 122 001 (Haryana).

.... Petitioner

Vs.

1. Karnataka Power Transmission Corporation Limited,
Kaveri Bhavan,
Bangalore – 560 009.
2. Transmission Corporation of Andhra Pradesh Limited,
Vidyut Soudha,
Hyderabad – 500 082.
3. Kerala State Electricity Board,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram – 695 004.
4. Tamil Nadu Electricity Board,
NPKRR Maaligai, 800, Anna Salai,



Chennai – 600 002.

5. Electricity Department,
Government of Goa, Vidyuti Bhawan,
Panaji, Goa – 403 001.
6. Electricity Department,
Government of Pondicherry,
Pondicherry – 605001.
7. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
8. Southern Power Distribution Company of Telangana Limited,
Corporate Office, Mint Compound,
Hyderabad – 500 063, Telangana.
9. Central Power Distribution Company of Andhra Pradesh Limited,
Corporate Office, Mint Compound,
Hyderabad – 500 063, Andhra Pradesh.
10. Northern Power Distribution Company of Telangana Limited,
Opposite NIT Petrol Pump, Chaitanyapuri,
Kazipet, Warangal – 506 004.
11. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R.Circle,
Bangalore – 560 001, Karnataka.
12. Gulbarga Electricity Supply Company Limited,
Station Main Road, Gulbarga,
Karnataka.
13. Hubli Electricity Supply Company Limited,
Navanagar, PB Road, Hubli,
Karnataka.
14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575 001, Karnataka.
15. Chamundeswari Electricity Supply Corporation Limited,
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore – 570 009, Karnataka.



16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad – 500082.
17. POWERGRID Southern Interconnector Transmission System Limited,
B-9, Qutab Institutional Area, Katwaria Sarai,
New Delhi – 110 016.
18. Tamil Nadu Transmission Corporation Limited,
(Formerly Tamil Nadu Electricity Board -TNEB)
5B Block 144, Anna Salai,
Chennai – 600 002.

...Respondent(s)

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

For Respondents : Shri B.Vinodh Kanna, Advocate, TANGEDCO
Ms. R. Ramalakshmi, TANGEDCO
Mr. R. Srinivasan, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for determination of transmission tariff for the period from the date of commercial operation 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 2 numbers of 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Chilakaluripeta-Cuddapah 765 D/C line at Cuddapah (2 numbers 240 MVAR Switchable line reactors) (hereinafter referred to as “the transmission assets”) under “Sub-station Works Associated with Strengthening of Transmission System beyond Vemagiri” in Southern Region (hereinafter referred to as “the transmission project”).



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 –8.2 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 8.8 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 of the Petitioner's Company in its 334th meeting held on 22.10.2016 (communicated vide Memorandum No. C/CP/PA 1617-10-00-IA 013 dated 24.10.2016), at an estimated cost of ₹60824 lakh including IDC of ₹3612 lakh based on June, 2016 price level.

(b) The scope of the transmission project was discussed and agreed to in the 37th and 39th meeting of the Standing Committee on Power System Planning of Southern Region held on 31.7.2014 and 29.12.2015 respectively and also in the 26th and 29th meeting of SRPC held on 20.12.2014 and 5.3.2016 respectively.

(c) The scope of work covered under the transmission project is as follows:

Sub-station

- i. 2 numbers of 765 kV line bays at Vemagiri-II Pooling Station for termination of Vemagiri-II-Chilakaluripeta 765 kV D/C Line;
- ii. 1 number of 240 MVAR Switchable Line Reactor on each circuit of Vemagiri-II Chilakaluripeta 765 kV D/C Line at Vemagiri-II polling Station (2 number 240 MVAR reactors at Vemagiri-II);
- iii. 2 numbers of 765 kV line bays at Cuddapah for terminating Chilakaluripeta- Cuddapah 765 kV D/C Line;
- iv. 1 number of 240 MVAR Switchable Line Reactor on each circuit of Chilakaluripeta- Cuddapah 765 kV D/C Line at Cuddapah (2 numbers 240 MVAR Switchable line reactors);
- v. 2 numbers of 400 kV line bays at Cuddapah for terminating Cuddapah - Madhugiri 400 kV (quad) D/C line;



- vi. 1 number of 50 MVAR Switchable Line Reactor on each circuit of Cuddapah -Madhugiri 400 kV (quad) D/C line at Cuddapah (2 numbers 50 MVAR Switchable line reactors);
- vii. 2 numbers of 400 kV line bays at Madhugiri for termination of Cuddapah -Madhugiri 400 kV (quad) D/C line;
- viii. 1 number of 50 MVAR Switchable Line Reactor on each circuit of Cuddapah- Madhugiri 400 kV (quad) D/C line at Madhugiri (2 numbers 50 MVAR Switchable line reactors);
- ix. 2 numbers of 400 kV line bays at Srikakulam for termination of Srikakulam Pooling Station - Garividi 400 kV Quad D/C line.

(d) The Petitioner has submitted that entire scope of the transmission project has been implemented and status of tariff petitions for the transmission assets covered under the transmission project are as follows:

Sl. No.	Name of Asset	SCOD as per IA	Actual COD	Covered in Petition No.
1.	2 Numbers 400 kV line bays at Srikakulam for termination of Srikakulam Pooling Station - Garividi 400 kV Quad D/C line		7.8.2018	480/TT/2019
2.	2 Numbers 400 kV line bays and 2 numbers. 50 MVAR Switchable line reactors each at Cuddapah GIS and Madhugiri end for terminating Cuddapah – Madhugiri 400 kV (quad) D/C line.		28.2.2019	69/TT/2020
3.	2 Numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Vemagiri II-Chilakaluripeta 765 D/C line at Vemagiri II Pooling Station (2 numbers 240 MVAR Switchable line reactors)	23.4.2019	15.1.2019	
4.	2 Numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Chilakaluripeta - Cuddapah 765 D/c line at Cuddapah (2 numbers 240 MVAR Switchable line reactors)		18.1.2020	Covered in the instant petition



(e) As per IA dated 24.10.2016, the transmission assets were scheduled to be put into commercial operation within 30 months from the date of IA (22.10.2016) i.e. by 21.4.2019.

(f) The details of transmission assets including SCOD, COD and time over-run are as follows:

SCOD	COD claimed	Time over-run
21.4.2019	18.1.2020	9 months

(g) The Annual Fixed Charges (AFC) claimed by the Petitioner in respect of the transmission assets for 2019-24 tariff period are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	154.34	882.00	1000.11	1000.11	1000.11
Interest on Loan	158.47	866.12	914.88	836.61	758.27
Return on Equity	164.38	939.58	1065.61	1065.61	1065.61
O&M Expenses	25.74	131.77	136.33	141.09	145.99
Interest on working capital	8.30	46.28	50.89	49.92	48.83
Total	511.23	2865.75	3167.82	3093.34	3018.81

(h) The details of the Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission assets are as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	10.61	10.98	11.36	11.76	12.17
Maintenance Spares	19.10	19.77	20.45	21.16	21.90
Receivables	310.88	353.31	390.55	381.37	371.17
Total	340.59	384.06	422.36	414.29	405.24
Rate of Interest (in %)	12.05%	12.05%	12.05%	12.05%	12.05%
Interest on Working Capital	8.30	46.28	50.89	49.92	48.83

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

5. The Petitioner has served the petition on the Respondents and notice of this



petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Tamil Nadu Generation and Distribution Limited (TANGEDCO) i.e. Respondent No. 4 has filed its reply vide affidavit dated 23.6.2021 and has raised issues of time over run, cost variation and sharing of transmission of charges. No rejoinder to the reply of TANGEDCO has been filed by the Petitioner. The issues raised by TANGEDCO have been considered in the relevant portions of this order.

6. The hearing in this matter was held on 8.6.2021 through video conference and order was reserved.

7. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 17.6.2020 and affidavit dated 14.5.2021 and reply filed by TANGEDCO vide affidavit dated 23.6.2021.

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

Date of Commercial Operation (“COD”)

9. The Petitioner has claimed COD in respect of the transmission assets under Regulation 9(1) of the 2019 Tariff Regulations as follows:

SCOD for the transmission assets	Completion of Trial run	COD of associated transmission line	COD claimed for the transmission assets
23.4.2019	30.7.2019	18.1.2020	18.1.2020

10. TANGEDCO has made the following submissions:



(i) It is evident from the certificate of POSOCO and CEA that though clearance was given on 2.4.2019 for energisation of the transmission assets, the trial operation was completed only on 30.7.2019 against SCOD of 21.4.2019. However, due to delay in commissioning of the associated transmission lines implemented by Powergrid Southern Interconnector Transmission System Limited (PSITSL), COD was declared on 18.1.2020 with delay of nine months.

(ii) The Petitioner was delayed/ prevented from declaring COD due to delay on the part of PSITSL. The transmission licensee should have approached the Commission for declaration of COD of its transmission assets from the date of its readiness as has been done by it in all other cases where there is delay on the part of STUs/ generators.

(iii) The Petitioner has failed to approach the Commission for declaration of deemed COD due to the fact that delay in the present case is attributed to its subsidiary company. It is apparent from the documentary evidence placed on record by the Petitioner that the transmission assets were ready for commissioning on SCOD but it was prevented from declaring COD by PSITSL and as such COD has to be reckoned from SCOD as has been done in many other cases and approved by Commission so as to avoid tariff burden in terms of servicing the capital cost from SCOD.

(iv) Regulation 6 of the 2019 Tariff Regulations provides for treatment of mismatch in date of commercial operation. In the present case, there seems to be a tacit understanding between the Petitioner and its subsidiary company, PSITSL, with regard to delay in COD. Not capitalising IDC and IEDC for the delay period and not declaring the deemed COD will to a great extent benefit the Petitioner and its subsidiary company in terms of allowing Initial Spares, IEDC, depreciation and other expenses included in the capital to be serviced by the beneficiaries from the actual COD thereby relieving them totally from these liabilities. The Commission is consistently treating such cases and directing the parties liable to pay the transmission charges bilaterally for the mismatch period



and the same is evident from the orders passed in Petition No. 361/TT/2018, Petition No. 245/TT/2017 and Petition No. 99/TT/2018 etc.

(v) The outcome in Petition No.13/MP/2021 filed by PSITSL seeking relief under Force Majeure for condonation of delay in completion of the transmission project under “Strengthening of Transmission System beyond Vemagiri” cannot relieve the Petitioner and its subsidiary company, PSITSL, from the responsibility of bearing the tariff burden for not matching the commissioning of the transmission lines with the associated bays which would otherwise set a wrong precedence in Indian power sector. The Petitioner should have entered into Implementation Agreement with PSITSL for indemnification of losses due to default of either parties.

(vi) The Commission should declare deemed COD of the transmission assets with effect from SCOD of the transmission assets i.e. 21.4.2019 and direct the Petitioner to bill the transmission charges bilaterally to PSITSL as is being done in other cases as per the Regulations.

11. In support of actual COD of the transmission assets, the Petitioner has submitted CEA Energisation Certificate dated 2.4.2019, RLDC charging certificate dated 3.9.2019 certifying that trial operation completed on 30.7.2019 and CMD certificate dated 3.2.2020 in accordance with Regulation 5(2) of the 2019 Regulations.

12. We have considered the submissions of the Petitioner and TANGEDCO. With respect to contention of TANGEDCO that the Commission should approve the deemed COD with effect from SCOD for the transmission assets as the associated transmission lines under the scope of PSITSL are not ready, we are of the view that deemed COD can be declared only when the Petitioner prays for such COD under



Regulation 5(2) of the 2019 Tariff Regulations. Without there being any prayer for approval of deemed COD with respect to the transmission assets, we do not consider it appropriate to do so at the behest of the Respondent TANGEDCO. The Petitioner has claimed COD of the transmission assets matching with the transmission line as on 18.1.2020 under Regulation 9(1) of 2019 Tariff Regulations.

13. Taking into consideration CEA energisation certificate, RLDC charging certificate and CMD certificate as required under the Grid Code, COD of the subject transmission assets is approved as 18.1.2020.

Capital Cost

14. Regulation 19 of the 2019 Tariff Regulations provides as follows:

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

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

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised Initial Spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) *Adjustment of revenue earned by the transmission licensee by using the Asset-before the date of commercial operation;*



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

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

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

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

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

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

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



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

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

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

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

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

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

15. The Petitioner vide Auditor’s Certificate dated 16.5.2020 has claimed the following capital cost incurred as on COD and Additional Capital Expenditure (ACE) projected to be incurred, in respect of the transmission assets:

Apportioned Approved Cost as per FR	Capital Cost claimed as on COD	Projected ACE	Total Capital Cost as on 31.3 2024
		2020-21	
21042.87	14493.85	4418.07	18911.92

(₹ in lakh)

Cost Over-run

16. The estimated completion cost of the transmission assets based on the Auditor’s certificate works out to ₹18911.92 lakh including IEDC and IDC. There is no cost over-run as per approved apportioned cost (FR) of ₹21042.87 lakh.

17. The Petitioner has submitted Form-5 and following justification for cost variation from FR cost of ₹21042.87 lakh to completion cost of ₹18911.92 lakh as on 31.3.2024:



a) Items-wise major variations as per Form-5 are as follows:

Sl. No.	Particulars	Cost details		Variation
		FR	Completion	(+ within, - increase) w.r.t FR
1.	Civil Works for Sub-station	641.64	957.42	(-) 315.78
2.	Sub-station equipment	17182.09	16429.65	752.44
3.	Overheads/IEDC	1838.85	318.15	1520.70
4.	IDC	1380.29	1206.70	173.59
	TOTAL	21042.87	18911.92	2130.95

b) Reduction on account of IDC and overheads with respect to FR.

(i) **IDC:** Decrease in IDC is attributable to variation in rate of interest considered in FR as against actuals, decrease in overall capital cost with respect to FR and deployment of funds based on actuals. In FR, IDC was calculated considering rate of interest for domestic loans at 10.5%. However, in actual, the weighted average rate of interest of loans is around 7.82%. The actual IDC accrued up to COD has been considered at the time of claim of tariff.

(ii) **Overheads and IEDC:** During FR estimation, 10.75% and 3% of equipment cost and civil works has been considered for IEDC and Contingency respectively whereas actual amount of IEDC has been considered at the time of claim of tariff.

c) Regarding variation in the cost of individual item, the Petitioner has submitted that packages under subject scope of works comprise of a large number of items and the same are awarded through open competitive bidding. In the said bidding process, bids are received from multiple parties quoting different rates for various BOQ items under the said package. The lowest bidder can be evaluated on overall basis only. Hence, item-wise unit prices in contracts and its variation over unit rate considered in FR estimates are beyond the control of the Petitioner. The Petitioner has submitted that a well laid down procurement policy is being followed which ensures both transparency and



competitiveness in the bidding process. The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market forces, bidder's perception and site requirements. The estimates are prepared by the Petitioner as per well-defined procedures. The FR cost estimate is broad indicative cost worked out generally based on average unit rates of recently awarded contracts/ general practice.

18. TANGEDCO has submitted that the Petitioner has not justified escalation of 49.21% of the FR cost in respect of civil works. TANGEDCO has submitted that the Petitioner has intentionally over-estimated the cost of certain components like IEDC/ overheads, sub-station equipment to accommodate huge increase in other components of the project. TANGEDCO has submitted that overheads/ IEDC component is over-projected by 478% and the Petitioner has stated that 10.75% and 3% of equipment cost and civil work has been considered for IEDC and contingency in the FR which is illogical. TANGEDCO has further submitted that the Petitioner should have a benchmark cost for every component of the project. TANGEDCO has further submitted that the Petitioner has intentionally over-estimated IEDC component to accommodate the cost escalation in other components. The Petitioner's perception that it has awarded contracts under competitive bidding as a package to the lowest bidder is wrong and the Petitioner should have analysed the rates quoted for the over all package as well as component-wise cost. If the individual component-cost is too high in comparison to recent orders/ benchmark rates, then the Petitioner was to negotiate the rates with the lowest bidder.

19. TANGEDCO has requested to direct the Petitioner to furnish the details of package-wise tenders floated, bids received from various tenders with component-



wise details and the rates accepted in similar tenders in the same time frame so as to make the tariff determination process more transparent. TANGEDCO has also submitted that the Petitioner has not disclosed detailed reason for withholding the liability amount.

20. We have considered the submissions of the Petitioner and TANGEDCO. It is observed that the cost variation is primarily on account of variation in estimated prices and final competitive prices. Further, the variation in cost against the total apportioned approved cost as per FR of ₹21042.87, the estimated completion cost including ACE is ₹18911.92 lakh which is within the apportioned approved cost. Therefore, the cost variation is allowed. The Petitioner is directed to justify the escalation of 49.21% of the FR cost in respect of civil works at the time of truing up.

Time Over-run

21. Investment Approval (IA) of the transmission project was accorded by Board of Directors of the Petitioner's Company in its 334th meeting held on 22.10.2016. SCOD of the transmission assets was within 30 months from the date of IA. Accordingly, SCOD comes to 21.4.2019 against which the transmission assets have been put under commercial operation on 18.1.2020. Therefore, there is time over-run of 272 days in COD of the transmission assets.

22. The Petitioner has submitted that delay in declaring COD is due to matching the transmission assets with the commissioning of associated transmission lines being executed under TBCB by PSITSL. The associated transmission lines were commissioned and put under commercial operation w.e.f. 18.1.2020 and the



transmission assets have also declared COD on the same day. The Petitioner has submitted CEA Monthly Progress Report and COD letter of TBCB line as proof of documentary evidence.

23. TANGEDCO has submitted that it is evident from PERT chart furnished by the Petitioner that project completion milestone date was 19.4.2019. As per the certificate dated 3.9.2019 issued by POSOCO, trial operation of the transmission assets was completed on 30.7.2019. Further, CEA vide its letter dated 2.4.2019 issued clearance for energization of the transmission assets. TANGEDCO has further submitted that the Petitioner was delayed/ prevented from declaration of COD due to the delay on the part of PSITSL, which is a subsidiary company of the Petitioner.

24. TANGEDCO also submitted that outcome of Petition No. 13/MP/2021 filed by PSITSL seeking relief under Force Majeure for condonation of delay in completion of the transmission project under “Strengthening of Transmission System beyond Vemagiri” cannot relieve the Petitioner and its subsidiary Company, PSITSL from the responsibility of bearing the tariff burden for not matching the commissioning of the transmission lines and the associated bays. TANGEDCO has further submitted that the Petitioner should have entered into Implementation Agreement with PSITSL for indemnification of losses due to default of either of the parties. TANGEDCO has, therefore, prayed that the Commission may declare the deemed COD with effect from SCOD of the project and direct the Petitioner to bill the transmission charges bilaterally to PSITSL for the entire period of delay i.e. from SCOD to actual COD.

25. We have considered the submissions of the Petitioner and TANGEDCO. As



per IA dated 24.10.2016, it is mentioned under the head commissioning schedule, that the project is scheduled to be commissioned within 30 months from the date of IA matching with the commissioning schedule of transmission lines to be implemented through TBCB route. The Petitioner in the instant petition has also submitted that time over run is due to matching with the commissioning of associated transmission lines being executed under TBCB.

26. In the COD letter of the TBCB line, it is mentioned, that:

“It is to be mentioned here that as per Schedule-3 of TSA, Vemagiri-II- Chilakaluripeta 765 kV D/C line is a pre-requirement element for declaring the commercial operation (COD) of Chilakaluripeta-Cuddapah 765 kV D/c transmission line and 765/400 kV Substation at Chilakaluripeta. As informed vide our letters dated 3.4.2019 & 31.7.2019, 765/400 kV Substation at Chilakaluripeta and Chilakaluripeta-Cuddapah Transmission line have been completed in March 2019 and the trial operation of the elements was completed on 31.3.2019 and 30.7.2019 respectively.”

27. On analysis of PERT chart submitted by the Petitioner, the dates for completion of various activities are as follows:

Particulars	Start Date	End date
LOA	20.3.2017	19.4.2017
Supplies (Structures, Equipment etc.)	14.11.2017	14.1.2017
Civil works and erection	2.11.2017	13.3.2019
Testing and commissioning	20.3.2017	19.4.2019

28. The trial operation of the transmission assets was completed on 30.7.2019. Further, CEA vide letter dated 2.4.2019 had issued clearance for energization of the transmission assets. It is apparent from documents placed on record that the transmission assets were ready, but COD was not declared since the associated transmission line under scope (through TBCB route) of a subsidiary company of the Petitioner had not commissioned its transmission line.

29. It is noted that Regulation 5(2) of the 2019 Tariff Regulations provides for



treatment of mismatch in COD as follows:

“5. Date of Commercial Operation:

.....

(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.”

30. It is observed that the Petitioner has not approached the Commission for declaration of COD under Regulation 5(2) of the 2019 Tariff Regulations and has delayed declaration of COD of the transmission assets so as to match commissioning them with the commissioning schedule of the associated transmission system. The transmission assets were declared under commercial operation w.e.f. 18.1.2020 matching with COD of the associated transmission system under scope of a subsidiary company of the Petitioner. Resultantly, COD of instant transmission assets has been approved as 18.1.2020 under Regulation 5(1) of the 2019 Tariff Regulations. Thus, it is observed that delay of 9 months, i.e. from scheduled commercial operation date i.e. 21.4.2019 to the commercial operation date of the transmission assets i.e. 18.1.2020, is solely on account of matching of the associated transmission system being implemented by the Petitioner’s subsidiary Company, PSITSL. It was the decision of the Petitioner to match the subject transmission assets with associated transmission system. Hence, the said delay cannot be condoned.

31. Further, it is observed that PSITSL has sought relief under Force Majeure for



condonation of delay in respect of associated transmission lines under “Strengthening of Transmission System beyond Vemagiri” in Petition No. 13/MP/2021. It is to be noted that TSA for the transmission assets (covered in this petition) and the associated transmission lines (covered in Petition No. 13/MP/2021) are separate and, as such, outcome in Petition No. 13/MP/2021, cannot be a ground for any relief as regards time over-run in the instant order.

32. No ground other than matching COD with associated transmission system of PSITSL has been claimed as reason for time over-run. Therefore, the time over-run in COD of the transmission assets is not condoned.

33. Accordingly, the decision with regard to time over-run in respect of the transmission assets covered in the instant petition is as follows:

Particulars	SCOD	COD*	Time over run	Time over run condoned	Time over run not condoned
2 numbers 765 kV line bays and 1 number 240 MVAR Switchable line reactor on each circuit of Chilakaluripeta - Cuddapah 765 D/C line at Cuddapah (2 numbers 240 MVAR Switchable line reactors)	21.4.2019	18.1.2020	272 days	-	272 days

*Approved under Regulation 5(1) of the 2019 Regulations.

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

34. The Petitioner has claimed IDC in respect of the transmission assets and has submitted the Auditor’s Certificate dated 16.5.2020 in support of the same. The Petitioner has submitted the computation of IDC along with year-wise details of the



IDC discharged.

35. The loan amount as on COD has been mentioned in Form-6 and Form-9C. While going through these documents, it is observed that there is mismatch in loan amount between IDC statement and in Form-9C. Therefore, the allowable IDC has been worked out based on the available information and relying on loan amount as per Tariff Form 9-C. The Petitioner is directed to submit the detailed IDC statement by rectifying the above-mentioned deviation, at the time of true up.

36. The loan details submitted in Form-9C for 2019-24 tariff period and IDC computation statement have been considered for the purpose of IDC calculation on cash basis and on accrued basis. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged. Further, adjustment on account of time over run has been done to arrive at the admissible IDC. However, in the statement showing IDC discharged up to COD, the Petitioner has not indicated the floating rate of interest of the loans deployed. IDC on cash basis up to COD has been worked out on the basis of loan details given in the statement showing discharge of IDC and Form-9C for the transmission assets.

37. For loans after 2.4.2019, i.e., for 'Commercial-335 SBI-04' the rate of interest has been considered at 8.15% on drawl date 2.4.2019 and 8.06% from 10.4.2019 to 15.4.2019. The Petitioner is directed to submit information on actual interest rates at the time of truing-up.

38. Accordingly, based on the information furnished by the Petitioner, IDC



considered, is as follows:

IDC as per Auditor's Certificate	IDC Admissible	IDC disallowed due to time over run	IDC Discharged as on COD	IDC Un-discharged as on COD	IDC Discharge During	
					2019-20	2020-21
					A	B
1206.70	621.68	585.02	621.68	-	-	-

39. The Petitioner has claimed IEDC of ₹318.85 lakh and has submitted Auditor's Certificate in support of the same. The Petitioner has also submitted that entire IEDC has been discharged as on COD in respect of the transmission assets. The Petitioner has not submitted Abstract Cost Estimate in the instant petition. However, the Petitioner has submitted that during FR estimation, 10.75% of Equipment Cost and Civil Works has been considered for IEDC. It is observed that IEDC claimed is within limit as per FR. The Petitioner is directed to submit the Abstract Cost Estimate at the time of truing up. Accordingly, IEDC allowed after adjustment of time over-run is as follows:

IEDC Claimed (A)	Deducted on account of time over run (B)	IEDC allowed (C) = (A-B)
318.15	73.15	245.00

Initial Spares

40. The Petitioner has claimed Initial Spares for transmission assets in accordance with the Regulation 23(d) of the 2019 Tariff Regulations 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%

41. The Petitioner has claimed the following Initial Spares:

Particulars	Plant & Machinery Cost up to cut-off date (₹ in lakh) (excluding IDC and IEDC)	Initial Spares Claimed (₹ in lakh)	Ceiling (in%)
Sub-station (GIS)	17306.83	519.81	7.00

42. We have considered the submissions of the Petitioner. It is observed that the Initial Spares claimed by the Petitioner are within the permissible limits in accordance with the 2019 Tariff Regulations and, hence, they are allowed.

Capital Cost allowed as on COD

43. Accordingly, capital cost allowed in respect of the transmission assets as on COD is as follows:

(₹ in lakh)				
Capital Cost claimed in Auditor Certificate as on COD (A)	IDC Disallowed due to time-over-run and computational difference (B)	Un-discharged IDC as on COD (C)	IEDC Disallowed (D)	Expenditure up to COD (F) = (A-B-C-D-E)
14493.85	585.02	-	73.15	13835.68

Additional Capital Expenditure (“ACE”)

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

“24. Additional Capitalization within the original scope and up to the cut-off date:

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



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

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

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

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

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

- a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- b) Change in law or compliance of any existing law;*
- c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- d) Liability for works executed prior to the cut-off date;*
- e) Force Majeure events;*
- f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and g) Raising of ash dyke as a part of ash disposal system.*

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



(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations.

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of

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

45. The Petitioner has claimed projected ACE for 2019-24 tariff period on account of balance and retention payments due to un-discharged liability projected for works executed within the cut-off date (31.3.2023) and unexecuted works within cuff-off date. The Petitioner has claimed projected ACE of ₹4418.07 lakh for the year 2020-21 as per Auditor’s certificate.

46. We have considered the submissions of Petitioner. ACE claimed on account of balance and retention payments is allowed under Regulations 24(1)(a) of the 2019 Tariff Regulations. ACE allowed in respect of the transmission assets is as follows:

(₹ in lakh)			
FR Capital Cost	Capital Cost as on 1.4.2019	Admitted ACE	Capital Cost as on 31.3.2024
		2020-21	
21042.87	13835.68	4418.07	18253.75

Debt-Equity Ratio

47. Regulations 18 of the 2019 Tariff Regulations provides as follows:

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

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:



- ii. *the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:*
- iii. *any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.*

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

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

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



Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Debt	9684.98	70.00	12777.62	70.00
Equity	4150.70	30.00	5476.12	30.00
Total	13835.68	100.00	18253.75	100.00

Depreciation

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

50. We have considered the submissions of the Petitioner. The IT equipment has been considered as part of the Gross Block and depreciated using Weighted Average Rate of Depreciation (WAROD). WAROD has been worked out and placed as Annexure-I after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as 100% depreciable. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. Depreciation allowed in respect of the transmission assets is as follows:



(₹ in lakh)

Particulars	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	13835.68	13835.68	18253.75	18253.75	18253.75
Addition during the year 2019-24 due to projected ACE	0.00	4418.07	0.00	0.00	0.00
Closing Gross Block	13835.68	18253.75	18253.75	18253.75	18253.75
Average Gross Block	13835.68	16044.71	18253.75	18253.75	18253.75
Weighted average rate of Depreciation (WAROD) (in %)	5.28%	5.28%	5.28%	5.28%	5.28%
Lapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00
Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
Aggregated Depreciable Value	12453.38	14293.76	15434.48	14470.43	13506.39
Depreciation during the year	148.00	848.65	965.28	965.28	965.28
Cumulative Depreciation at the end of the year	148.00	996.65	1961.93	2927.21	3892.49
Remaining Aggregate Depreciable Value at the end of the year	12305.38	13444.86	14467.71	13502.43	12537.15

Interest on Loan (“IoL”)

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

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

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

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

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered



from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

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

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

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

(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”.

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

Particulars	(₹ in lakh)				
	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	9684.98	9684.98	12777.62	12777.62	12777.62
Cumulative Repayments up to Previous Year	0.00	148.00	996.65	1961.93	2927.21
Net Loan-Opening	9684.98	9536.97	11780.98	10815.70	9850.41
Addition due to ACE	0.00	3092.65	0.00	0.00	0.00
Repayment during the year	148.00	848.65	965.28	965.28	965.28
Net Loan-Closing	9536.97	11780.98	10815.70	9850.41	8885.13



Average Loan	9610.97	10658.98	11298.34	10333.05	9367.77
Weighted Average Rate of Interest on Loan (in %)	7.820	7.819	7.818	7.817	7.816
Interest on Loan	151.95	833.41	883.33	807.77	732.16

Return on Equity (“RoE”)

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

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

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

Provided that return on equity in respect of Additional Capitalization after cut-off date beyond the original scope excluding Additional Capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

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

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

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

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

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



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

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

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

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

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

Illustration-

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

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

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

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

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



the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”

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

(₹ in lakh)					
Particulars	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Opening Equity	4150.70	4150.70	5476.12	5476.12	5476.12
Addition due to ACE	0.00	1325.42	0.00	0.00	0.00
Closing Equity	4150.70	5476.12	5476.12	5476.12	5476.12
Average Equity	4150.70	4813.41	5476.12	5476.12	5476.12
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
Return on Equity (Pre-tax)	157.62	904.05	1028.53	1028.53	1028.53

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

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

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

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



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

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



Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
 - ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
 - iii. the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
 - iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;*
 - v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and*
 - vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.*
- (b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.*
- (c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:*

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

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

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



(₹ in lakh)

Particulars	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Sub-station Bays					
2 Numbers 765 kV line bays and 2 Numbers 240 MVAR Switchable Line reactor bays	4	4	4	4	4
Norm (₹ lakh/bay)					
765kV GIS*	31.507	32.62	33.761	34.951	36.176
Total Sub-station O&M Expenses	25.48	130.48	135.04	139.80	144.70
Communication System					
PLCC (₹ in lakh)	64.38	64.38	64.38	64.38	64.38
Norms (in %)	2	2	2	2	2
Total Communication System	0.26	1.29	1.29	1.29	1.29
Total O&M Expenses (₹ in lakh)	25.74	131.77	136.33	141.09	145.99

* O&M expenses for the GIS bays shall be allowed by multiplying 0.70 of the O&M Expenses of the normative O&M expenses for bays.

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

58. O&M Expenses allowed in respect of the transmission assets are as follows:



(₹ in lakh)

Particulars	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Sub-station Bays					
765 kV GIS (2 Numbers of line bays and 2 numbers of Reactor bays)	4	4	4	4	4
Norm (₹ lakh/bay)					
765kV GIS	31.507	32.62	33.761	34.951	36.176
Total O&M Expenses	25.48	130.48	135.04	139.80	144.70

Interest on Working Capital (“IWC”)

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

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

.....

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

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

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

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

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

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

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

“3. Definition - *In these regulations, unless the context otherwise requires:-*



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

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

(₹ in lakh)					
Particulars	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M expenses for one month)	10.50	10.87	11.25	11.65	12.06
Working Capital for Maintenance Spares (15% of O&M expenses)	18.90	19.57	20.26	20.97	21.71
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	298.61	340.06	376.65	367.82	358.01
Total Working Capital	328.02	370.51	408.16	400.44	391.77
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest of working capital	7.99	41.68	42.86	42.05	41.14

Annual Fixed Charges for 2019-24 Tariff Period

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



(₹ in lakh)

Particulars	2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	148.00	848.65	965.28	965.28	965.28
Interest on Loan	151.95	833.41	883.33	807.77	732.16
Return on Equity	157.62	904.05	1028.53	1028.53	1028.53
Operation and Maintenance	25.48	130.48	135.04	139.80	144.70
Interest on Working Capital	7.99	41.68	42.86	42.05	41.14
Total	491.05	2758.27	3055.04	2983.43	2911.81

Filing Fee and Publication Expenses

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

Licence Fee and RLDC Fees and Charges

63. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Goods and Services Tax

64. 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.



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

Security Expenses

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

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

Capital Spares

68. 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

69. The Petitioner has submitted that associated transmission line was not ready,



and there was time delay of nine months in commissioning of the transmission assets due to matching with the commissioning of associated transmission lines. These associated transmission lines are under 'Strengthening of Transmission System beyond Vemagiri' which are being implemented by Powergrid Southern Interconnector Transmission System Limited (PSITSL), a 100% subsidiary of the Petitioner's Company, through TBCB and associated bay extension works are being implemented by the Petitioner on cost basis.

70. TANGEDCO has submitted that trued up capital cost for 2014-2019 tariff period has to be shared among the beneficiaries as per the 2010 Sharing Regulations. However, the 2020 Sharing Regulations has been notified on 4.5.2020 and came into force with effect from 1.11.2020. TANGEDCO has further submitted that it is essential to segregate the additional cost and tariff liability up to 31.10.2020 and from 1.11.2020 so as to allocate the charges based on 2010 Sharing Regulations and the 2020 Sharing Regulations respectively.

71. We have considered the submissions of TANGEDCO. With effect from 1.11.2020, the 2010 Sharing Regulations has been repealed and sharing of transmission charges is governed by the provisions of the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection, and disbursement of transmission charges for subsequent period shall be



recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

72. To summarise,

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

(₹ in lakh)				
2019-20 (Pro-rata for 74 days)	2020-21	2021-22	2022-23	2023-24
491.05	2758.27	3055.04	2983.43	2911.81

73. Annexure-I given hereinafter shall form part of the order.

74. This order disposes of Petition No. 661/TT/2020 in terms of the above discussions and findings.

sd/-
(P.K. Singh)
Member

sd/-
(I.S. Jha)
Member

sd/-
(P.K. Pujari)
Chairperson



Annexure-I

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE	Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (%)	Annual Depreciation as per Regulations				
		2020-21			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Building	20.40	-	20.40	3.34	0.68	0.68	0.68	0.68	0.68
Sub Station	13741.11	4418.07	18159.18	5.28	725.53	842.17	958.80	958.80	958.80
PLCC	61.46	-	61.46	6.33	3.89	3.89	3.89	3.89	3.89
IT Equipment and software	12.71	-	12.71	15.00	1.91	1.91	1.91	1.91	1.91
TOTAL	13835.68	4418.07	18253.75		732.01	848.65	965.28	965.28	965.28
			Average Gross Block (₹ in lakh)		13835.68	16044.71	18253.75	18253.75	18253.75
			Weighted Average Rate of Depreciation (%)		5.28	5.28	5.28	5.28	5.28

