

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 664/TT/2020**

**Coram:**

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

**Date of Order: 02.03.2022**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and determination of transmission tariff of the 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for **Asset 1**: 1 Number Spare 201 MVA, 1 ph 3 winding Converter Transformer and **Asset 2**: 1 Number Spare 234 MVA, 1 ph 3 winding Converter Transformer at Vizag HVDC Terminal Station under Procurement of Spare Converter Transformer for Vizag HVDC System in Southern Region.

**And in the matter of:**

Power Grid Corporation of India Limited,  
'SAUDAMINI', Plot No-2, Sector 29,  
Gurgaon-122001 (Haryana).

**.....Petitioner**

**Versus**

1. Tamil Nadu Generation and Distribution Corporation Limited,  
(Formerly Tamil Nadu Electricity Board-TNEB),  
NPKRR Maaligai, 800, Anna Salai,  
Chennai-600002.
2. Transmission Corporation of Andhra Pradesh Limited,  
Vidyut Soudha,  
Hyderabad-500082.
3. Kerala State Electricity Board,  
Vaidyuthi Bhavanam, Pattom,  
Thiruvananthapuram-695004.
4. Electricity Department,  
Government of Goa,  
Vidyuti Bhawan,  
Panaji, Goa-403001.
5. Electricity Department



Government of Pondicherry,  
Pondicherry-605001.

6. Eastern Power Distribution Company of Andhra Pradesh Limited,  
P&T Colony, Seethmmadhara,  
Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,  
Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road,  
Kesavayana Gunta,  
Chittoor District, Tirupati-517501 (Andhra Pradesh).
8. Central Power Distribution Company of Andhra Pradesh Limited,  
Corporate Office, Mint Compound,  
Hyderabad-500063 (Andhra Pradesh).
9. Northern Power Distribution Company of Andhra Pradesh Limited,  
Opposite NIT Petrol Pump, Chaitanyapuri, Kazipet,  
Warangal-506004 (Andhra Pradesh).
10. Bangalore Electricity Supply Company Limited,  
Corporate Office, K. R. Circle,  
Bangalore-560001 (Karnataka).
11. Gulbarga Electricity Supply Company Limited,  
Station Main Road,  
Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Limited,  
Navanagar, PB Road,  
Hubli, Karnataka.
13. MESCOM Corporate Office,  
Paradigm Plaza, AB Shetty Circle,  
Mangalore-575001 (Karnataka).
14. Chamundeswari Electricity Supply Corporation Limited,  
927, L J Avenue, Ground Floor, New Kantharaj URS Road,  
Saraswatipuram,  
Mysore-570009 (Karnataka).
15. Transmission Corporation of Telangana Limited,  
Vidhyut Sudha, Khairatabad,  
Hyderabad-500082.
16. Tamil Nadu Transmission Corporation,  
NPKRR Maaligai, 800, Anna Salai  
Chennai-600002.
17. Karnataka Solar Power Development Corporation Limited,



2<sup>nd</sup> Floor, South Block, Beeja Raja Seed Complex,  
Bellary Road, Hebbala,  
Bengaluru-560024 (Karnataka).

18. Karnataka Power Transmission Corporation Limited,  
Kaveri Bhavan,  
Bangalore-560009.

.....Respondent(s)

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

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

### **ORDER**

The Petitioner, Power Grid Corporation of India Limited, has filed the instant petition for determination of transmission tariff for the period 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 **Asset 1:** 1 Number Spare 201 MVA, 1ph 3 winding Converter Transformer and **Asset 2:** 1 Number Spare 234 MVA, 1ph 3 winding Converter Transformer at Vizag HVDC Terminal Station (hereinafter collectively referred to as “the transmission assets”) under Procurement of Spare Converter Transformer for Vizag HVDC System in Southern Region (hereinafter referred to as “the transmission project”).

2. The Petitioner has made the following prayers in this 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.”

3. **Backdrop of the case**

a) The Petitioner has submitted that it was entrusted with implementation of the transmission project with its requirement discussed and agreed in the 33<sup>rd</sup> Standing Committee Meeting (SCM) on Power System Planning of Southern Region held on 20.10.2011 followed by its discussion and approval in 18<sup>th</sup> Southern Regional Power Committee (SRPC) meeting held on 23.12.2011. Further, the proposal related to the said requirement was agreed in SCM on Power System Planning in Eastern Region held on 5.1.2013 followed by its approval in the 25<sup>th</sup> TCC and 25<sup>th</sup> ERPC meetings held on 20.9.2013 and 21.9.2013 respectively.

b) Investment Approval (IA) for the transmission project was accorded by the Board of Directors of the Petitioner's company (in its 340<sup>th</sup> meeting held on



11.5.2017) vide Memorandum Ref. No. C/CP/PA 1718-05-0A-IA005 dated 6.6.2017 at an estimated cost of ₹9723.00 lakh including IDC of ₹572.00 lakh (based on December 2016 price level) with the broad scope of works as follows:

**Vizag HVDC Terminal Station:**

- 1 Number Spare 234 MVA, 1ph 3 winding Converter Transformer
- 1 Number Spare 201 MVA, 1ph 3 winding Converter Transformer

c) The Petitioner vide affidavit dated 25.6.2020 has filed the instant petition seeking determination of transmission tariff from actual COD (28.3.2020) to 31.3.2024 for Asset-1 and from anticipated COD (30.6.2020) to 31.3.2024 for Asset-2. However, the Petitioner vide affidavit dated 2.3.2021 has submitted that COD of Asset-2 was 30.7.2020.

d) As per IA dated 11.5.2017 and the Petitioner's submissions, the scheduled COD of Asset-I and Asset-II was 10.5.2019 against which Asset-1 was put into commercial operation on 28.3.2020 (with time over-run of 323 days) and Asset-2 was put into commercial operation on 30.7.2020 (with time over-run of 447 days).

e) COD of Asset-1 and Asset-2 filed vide affidavit dated 2.3.2021 *vis-à-vis* COD/ anticipated COD as filed in this petition vide affidavit dated 25.6.2020 is as follows:

<b>Asset</b>	<b>COD (as filed)</b>	<b>Current Status (COD)</b>
<b>Asset 1:</b> Number Spare 201 MVA, 1ph 3 winding Converter Transformer	28.3.2020 (Actual)	28.3.2020 (Actual)
<b>Asset-2:</b> 1 Number Spare 234 MVA, 1ph 3 winding Converter Transformer	30.6.2020 (Anticipated)	30.7.2020 (Actual)

f) As per IA and the Petitioner's submissions, the entire scope of the transmission project is complete and is covered in this petition.

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



5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or objections have been received from the general public in response to the aforesaid notices published in the newspapers. Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Respondent No. 1 has filed its reply vide affidavit dated 28.10.2021 and has raised the issues of time over-run, Additional Capital Expenditure (ACE) during 2020-21 with respect to Asset-2 and sharing of transmission charges. The Petitioner vide affidavit dated 25.11.2021 has filed rejoinder to TANGEDCO's reply.

6. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 25.6.2020, additional information filed by the Petitioner vide affidavit dated 2.3.2021, the Petitioner's affidavit dated 15.9.2021 filed in response to technical validation letter, TANGEDCO's reply filed vide affidavit dated 28.10.2021 and the Petitioner's rejoinder filed vide affidavit dated 25.11.2021 to TANGEDCO's reply.

7. The hearing in this matter was held on 29.10.2021 through video conference and order was reserved. Having heard the learned counsel for TANGEDCO and representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

8. It has been placed before us that TANGEDCO has been raising similar issues with respect to the sharing of transmission charges in other petitions as well despite clear findings of the Commission rejecting the related contentions of TANGEDCO. The said contentions of TANGEDCO have been rejected by the Commission in other petitions including Petition No. 141/TT/2020 vide order dated 8.11.2021. Therefore,



we do not find merit in the similar submissions made in the instant petition by TANGEDCO and, hence, the submissions made in the instant petition are not reproduced in the instant order. As TANGEDCO has not challenged the findings on the issue, the same has attained finality. The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.

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

9. The details of the transmission charges as claimed by the Petitioner for the transmission assets for the 2019-24 tariff period are as follows:

(₹ in lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2019-20 (Pro-rata for 4 days)</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	1.28	124.55	131.95	131.95	131.95
Interest on Loan	1.26	118.08	115.86	106.04	96.23
Return on Equity	1.37	132.91	140.81	140.81	140.81
Interest on Working Capital	0.09	8.92	9.23	9.20	9.15
O&M Expenses	0.79	74.57	77.18	80.00	82.61
<b>Total</b>	<b>4.79</b>	<b>459.03</b>	<b>475.03</b>	<b>468.00</b>	<b>460.75</b>

(₹ in lakh)

<b>Asset 2</b>				
<b>Particulars</b>	<b>2020-21 (Pro-rata for 245 days)</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Depreciation	93.08	145.69	146.09	146.09
Interest on Loan	86.64	127.13	116.99	106.47
Return on Equity	99.33	155.47	155.90	155.90
Interest on Working Capital	6.30	9.68	9.68	9.64
O&M Expenses	58.27	89.86	93.13	96.17
<b>Total</b>	<b>343.62</b>	<b>527.83</b>	<b>521.79</b>	<b>514.27</b>

10. The details of the Interest on Working Capital (IWC) as claimed by the Petitioner for the transmission assets are as follows:

(₹ in lakh)

<b>Asset 1</b>					
<b>Particulars</b>	<b>2019-20 (Pro-rata for 4 days)</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
O&M Expenses	6.00	6.21	6.43	6.67	6.88
Maintenance Spares	10.79	11.19	11.58	12.00	12.39
Receivables	53.88	56.59	58.57	57.70	56.65
<b>Total Working Capital</b>	<b>70.67</b>	<b>73.99</b>	<b>76.58</b>	<b>76.37</b>	<b>75.92</b>





Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
<b>Interest on Working Capital</b>	<b>0.09</b>	<b>8.92</b>	<b>9.23</b>	<b>9.20</b>	<b>9.15</b>

Particulars	(₹ in lakh)			
	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
O&M Expenses	7.23	7.49	7.76	8.01
Maintenance Spares	13.02	13.48	13.97	14.43
Receivables	63.11	65.07	64.33	63.23
<b>Total Working Capital</b>	<b>83.36</b>	<b>86.04</b>	<b>86.06</b>	<b>85.67</b>
Rate of Interest (in %)	11.25	11.25	11.25	11.25
<b>Interest on Working Capital</b>	<b>6.30</b>	<b>9.68</b>	<b>9.68</b>	<b>9.64</b>

### Date of Commercial Operation

11. The Petitioner has claimed COD for Asset-1 and Asset-2 as 28.3.2020 and 30.7.2020 respectively.

12. 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.*

*(3) The date of commercial operation in case of integrated mine(s), shall mean the earliest of —*

*a) the first date of the year succeeding the year in which 25% of the Peak Rated Capacity as per the Mining Plan is achieved; or*

*b) the first date of the year succeeding the year in which the value of production estimated in accordance with Regulation 7A of these regulations, exceeds total expenditure in that year; or*

*c) the date of two years from the date of commencement of production:*

*Provided that on earliest occurrence of any of the events under sub-clauses (a) to (c) of Clause (3) of this Regulation, the generating company shall declare the date of commercial operation of the integrated mine(s) under the relevant sub-clause with one week prior intimation to the beneficiaries of the end-use or associated generating station(s);*

*Provided further that in case the integrated mine(s) is ready for commercial operation but is prevented from declaration of the date of commercial operation for reasons not attributable to the generating company or its suppliers or contractors or the Mine Developer and Operator, the Commission, on an application made by the generating company, may approve such other date as the date of commercial operation as may be considered appropriate after considering the relevant reasons that prevented the declaration of the date of commercial operation under any of the sub-clauses of Clause (3) of this Regulation;*

*Provided also that the generating company seeking the approval of the date of commercial operation under the preceding proviso shall give prior notice of one month to the beneficiaries of the end-use or associated generating station(s) of the integrated mine(s) regarding the date of commercial operation.”*

13. The Petitioner has submitted COD Certificate (dated 31.3.2020) with respect to Asset-1 and vide affidavit dated 2.3.2021 has submitted COD Certificate (dated 10.8.2020) with respect to Asset-2. Further, the Petitioner vide affidavit dated 15.9.2021 has submitted that as the transmission assets are spares, RLDC certificate, Energisation Certificate, Implementation Agreement, minutes of the coordination meetings, Certificate of CEO or MD and other documentary evidence are not applicable.

14. We have considered the submissions and claim of the Petitioner and note that requirement of the transmission assets was discussed and agreed in the 33<sup>rd</sup> SCM on Power System Planning of Southern Region held on 20.10.2011 followed by its



discussion and approval in 18<sup>th</sup> SRPC meeting held on 23.12.2011. Also, the proposal related to the said requirement was agreed in SCM on Power System Planning in Eastern Region held on 5.1.2013 followed by its approval in the 25<sup>th</sup> TCC and 25<sup>th</sup> ERPC meetings held on 20.9.2013 and 21.9.2013 respectively.

15. We further note that in support of COD, the Petitioner has submitted COD Certificates for Asset-1 (dated 31.3.2020) and for Asset-2 (dated 10.8.2020) certifying that in terms of Regulation 5 of the 2019 Tariff Regulations, Asset-1 and Asset-2 have been put under commercial operation with effect from 28.3.2020 and 30.7.2020 respectively.

16. In view of the foregoing, COD for Asset-1 and Asset-2 is approved as 28.3.2020 and 30.7.2020 respectively.

### **Capital Cost**

17. 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 tried 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.”*

18. The Petitioner has submitted that the instant petition for determination of tariff is filed in line with proviso (1) of Regulation 9 of the 2019 Tariff Regulations applicable for the 2019-24 period. Also, this petition covers approval of tariff based on actual expenditure incurred up to COD and ACE projected to be incurred from COD to 31.3.2021 in respect of the transmission assets as per the details submitted. The Petitioner has submitted Auditor's Certificate dated 16.5.2020 for Asset-1 and vide affidavit dated 2.3.2021 has submitted revised Auditor's Certificate dated 22.10.2020 for Asset-2. Further, the details of the capital cost (as on COD), projected ACE for 2020-21 and Estimated Completion Cost for the transmission assets as duly certified by the said Auditor's Certificates are as follows:

(₹ in lakh)

Asset	Apportioned Approved Cost (as per FR)	Capital Cost claimed (as on COD)	Projected ACE	Estimated Completion Cost
			2020-21	
Asset-1	4323.03	2280.17	218.93	2499.10
Asset-2	5399.52	2547.63	219.19	2766.82
<b>Total</b>	<b>9722.55</b>	<b>4827.80</b>	<b>438.12</b>	<b>5265.92</b>

19. We have considered the submissions of the Petitioner regarding capital cost and projected ACE and have given our findings on the same in the relevant portions of this order.



## Cost Over-run

20. The Petitioner has submitted the details of estimated completion cost *vis-à-vis* apportioned approved cost (FR) for Asset-1 and Asset-2 vide affidavit dated 25.6.2020 and 2.3.2021 respectively as follows:

(₹ in lakh)			
Asset	Approved Cost (a)	Estimated Completion Cost (b)	Cost Variation (c) = (b-a)
Asset 1	4323.03	2499.10	-1823.93
Asset 2	5399.52	2766.82	-2632.70

21. The Petitioner has submitted that the estimated completion cost of Asset 1 and Asset 2 based on the Auditor's Certificates including IDC and IEDC is within the approved apportioned cost as per FR. Also, the item-wise cost variations between apportioned approved cost and estimated completion cost have been explained in Form 5 submitted in this petition. The reasons of cost variation submitted by the Petitioner are as follows:

a) **IDC:** Decrease in IDC is attributable to variation in rate of interest considered in FR versus 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 @10.5%. However, in actual, the Weighted Average Rate of Interest (WAROI) on loans is around 7.43%. The actual IDC accrued up to actual/ anticipated COD has been considered at the time of claim of tariff.

b) **IEDC:** In IA, 10.75% and 3% of Equipment cost and Civil Works has been considered for IEDC and contingency respectively, whereas based on the actual expenditure under the subject head, IEDC has been claimed in the Management Certificate.

c) **Cost Variation in the Equipment Cost including civil works:**

— Detailed Project Report was prepared based on the budgetary offers obtained from prospective bidders. However, during open competitive bidding process, lowest possible market prices as per prevailing market forces for



required product/services/as per detailed designing was obtained and contracts were awarded on the basis of lowest evaluated eligible bidder on overall basis.

— The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. Whereas, the estimates are prepared by the Petitioner as per well-defined procedures for cost estimate. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts as a general practice. The cost estimate of the transmission project is on the basis of December, 2016 Price Level.

22. The Petitioner vide affidavit dated 2.3.2021 has submitted that based on the revised Auditor's Certificate dated 22.10.2020, the cost of Asset 2 has been revised. Also, the estimated completion cost of Asset 2 is within the apportioned cost FR and the reasons for item-wise cost variation between approved apportioned costs (FR) and estimated completion cost have been given in Form 5.

23. We have considered the submissions of the Petitioner and observe that the estimated completion cost of the transmission assets based on the Auditor's Certificates works out to be ₹5265.92 lakh (including IDC and IEDC) and there is no cost over-run as per approved FR of ₹9722.55 lakh.

24. We further observe that against the total apportioned approved cost as per FR of ₹9722.55 lakh, the estimated completion cost is ₹5265.92 lakh as on 31.3.2024, which is within the apportioned approved cost, and accordingly the cost variation is allowed.

### **Time Over-run**

25. As per IA dated 11.5.2017 and the Petitioner's submissions, the scheduled COD of Asset-I and Asset-II was 10.5.2019 against which Asset 1 achieved COD on 28.3.2020 while Asset 2 achieved COD on 30.7.2020. Therefore, Asset 1 and Asset 2





were put into commercial operation with a time over-run of 323 days (10 months, 18 days) and 447 days (13 months, 20 days) respectively.

26. The Petitioner has submitted that the delay is mainly due to contractual delays and site constraints. The reasons of time over-run as submitted by the Petitioner (along with the Petition and vide affidavit dated 15.9.2021) are as follows:

a) **Civil Foundation issues:** Due to change in the sand policy by Government of Andhra Pradesh, the sand was not available for carrying out the civil works for around 6 months. This delayed the civil foundation works for around 6 months starting from June 2019.

b) **Cable Shifting issues:** To accommodate the converter transformers in the prescribed place, the existing 33 KV cables going beneath the foundation area were arranged for protection so that the new converter transformers don't affect the existing 33 KV supply to HVDC station. This issue delayed the works for 4 months. Further, the foundation was shifted around 10 metres back to avoid as many cables as possible and for proper manoeuvring of converter transformers during replacement.

c) **Delay in manufacturing of Converter Transformers:** The activities for implementation of the transmission project were started immediately upon IA and the Letter of Award was placed timely as planned on 30.6.2017. However, the manufacture and further transport of Converter Transformer was delayed due to delay in supply of Converter Transformer 170 kV bushings from M/s ABB and Sweden. Further, there was delay in the type Test approval as the said Converter Transformer is being supplied first time in India by M/s TBEA. The Converter Transformer belonging to Package B and Package C reached site in July 2019 and January 2020 respectively.

d) **Drain and civil engineering issues:** There was a major drain and civil engineering issue for proper manoeuvring of converter transformer during replacement wherein it required civil drawings changes and further approval as per site conditions. This delayed the work by around 3 months. This whole process delayed the transmission project by around 11 months. However, all efforts were made to commission the transmission assets at the earliest.





e) **Civil Foundation and Erection issues:**

— There was a delay of about 8 Weeks to avoid moisture ingress due to rains from August to October 2019.

— The failure of bushing neutral current transformers-2 numbers for Asset 1 has led to a delay of 12 Weeks in the erection activities for procurement and replacement of defective NCTs.

27. TANGEDCO vide affidavit dated 28.10.2021 has submitted as follows:

a) To cope with scarcity of sand, developers are now finding other alternatives. In addition, the contractor is responsible for completing all construction work on time, and the risk of procuring materials lies with the contractor. Therefore, the delay of 4 months cited by the Petitioner is not reasonable.

b) It is the responsibility of the Petitioner to plan and execute the works anticipating the shifting/ protection of the existing 33 kV cable, civil drawing changes and further approval as per site condition. Instead, the Petitioner is trying to pass on the 7 (4+3) months' time delay and the eventual increase in the cost to the beneficiaries.

c) The issues in the manufacture and transport of converter transformer due to delay in supply of converter transformer 170 kV bushings from M/s ABB and the delay in the type test approval by M/s TBEA must be dealt by the Petitioner with M/s. ABB, M/s TBEA. The 3-month delay could not be attributed to beneficiaries. LD must be recovered from the supplier for the delayed period of supply.

d) The Petitioner, vide letter dated 15.9.2021, has stated that there was a delay of about 8 Weeks to avoid moisture ingress due to rains from August to October 2019. The Petitioner was aware of the hindrance caused by the rains during the monsoon season and the same was considered while drawing the completion schedule. In addition, construction time benchmarks include such seasonal turmoil and any delay on the ground is only attributable to the Petitioner.



e) Reasons for delay fall within “controllable factor” as per Regulation 22(1) of the 2019 Tariff Regulations.

28. We have considered the submissions of the Petitioner and TANGEDCO and note that the Petitioner has submitted details of time over-run with respect to the transmission assets in Form 12 as filed vide affidavit dated 15.9.2021. The said details in a summarized manner are tabulated as follows:

Asset-1	Investment Approval		Actual		Delay	Agency Responsible	Reasons for delay
	Start	Completion	Start	Completion			
LOA	30.6.2017		30.6.2017		-		
Investment Approval	11.5.2017				-		
Supply of Materials	30.6.2017	31.12.2018	27.7.2019	27.7.2019	208	TBEA	Delay in manufacturing and Transport of Converter Transformers
Erection works	1.1.2019	31.3.2019	28.7.2019	1.3.2020	336	TBEA and <i>force majeure</i>	Delay of about 8 Weeks to avoid moisture ingress due to rains from August to October 2019. Due to change in the sand policy by Government of Andhra Pradesh
Testing & Commissioning	1.4.2019	10.5.2019	2.3.2020	28.3.2020			

Asset-2	Investment Approval		Actual		Delay	Agency Responsible	Reasons for delay
	Start	Completion	Start	Completion			
LOA	30.6.2017		30.6.2017		-		
Investment Approval	11.5.2017				-		
Supply of Materials	30.6.2017	31.12.2018	27.12.2019	27.12.2019	361	TBEA	Delay in manufacturing and Transport of Converter Transformers
Erection works	1.1.2019	31.3.2019	28.12.2019	10.3.2020	345	TBEA	Delay of about 8 Weeks to avoid moisture ingress due to rains from August to October 2019. Due to change in the sand policy by Government of Andhra Pradesh
Testing and Commissioning	1.4.2019	10.5.2019	11.3.2020	30.7.2020	447	TBEA and <i>force majeure</i>	Delay of 4 months due to onset of COVID 19

29. We further note that the delay is on account of contractual delays. Regulation 22 of the 2019 Tariff Regulations provides as follows:



**“22. Controllable and Uncontrollable factors:** The following shall be considered as controllable and uncontrollable factors for deciding time over-run, cost escalation, IDC and IEDC of the new projects:

(1) The “controllable factors” shall include but shall not be limited to the following:

- a. Efficiency in the implementation of the new projects not involving approved change in scope of such new projects, change in statutory levies or change in law or force majeure events; and
- b. Delay in execution of the new projects on account of contractor or supplier or agency of the generating company or transmission licensee.

(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.”

30. As per Regulation 22(1)(b) of the 2019 Tariff Regulations, the entire time over-run in case of the transmission assets fall under contractual issues and, therefore, was controllable. Accordingly, we are not inclined to condone the time over-run in case of the transmission assets.

### **Interest During Construction (IDC)**

31. The Petitioner has submitted the details of accrual IDC as considered under ACE during the year of discharge with respect to Asset 1 in a tabulated form in this petition. With respect to Asset 1, out of the total IDC of ₹61.53 lakh, no IDC has been discharged up to COD. The total IDC of ₹61.53 lakh has been discharged during 2020-2021. Also, expenditure other than the accrued IDC has been considered on cash basis in the Auditor’s Certificate. Further, the accrued IDC to be discharged during 2020-21 has not been included in ACE for the respective year as per Auditor’s Certificate and the statement of cash IDC has been submitted. The Petitioner has requested to allow IDC on the basis of cash out flow.

32. The Petitioner vide affidavit dated 2.3.2021 has submitted the details of accrual IDC as considered under ACE during the year of discharge in a tabulated form. With



respect to Asset 2, out of the total IDC of ₹87.22 lakh, ₹4.44 lakh has been discharged up to COD. The balance IDC of ₹31.60 lakh and ₹15.18 lakh has been discharged during 2020-21 and 2021-22 respectively. Also, expenditure other than the accrued IDC has been considered on cash basis in the revised Auditor's Certificate. Further, the accrued IDC to be discharged during 2020-21 and 2021-22 has not been included in ACE for the respective year as per the revised Auditor's Certificate and the statement of cash IDC has been submitted.

33. We have considered the submissions of the Petitioner and note that the Petitioner has claimed IDC based on the Auditor's Certificate (dated 16.5.2020) for Asset-1 and revised Auditor's Certificate (dated 22.10.2020) for Asset-2 and the computation of IDC along with year-wise details of the IDC discharged has been submitted by the Petitioner.

34. We further note that the loan amount as on COD has been mentioned in Form-6 and Form-9C. While going through these documents, it has been 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.

35. In view of the foregoing, loan details submitted in Form-9C for the 2019-24 tariff period and IDC computation statement have been considered for the purpose of IDC calculation on cash basis and accrual basis. Also, adjustment on account of time over-run has been done to arrive at the admissible IDC. IDC on cash basis up to COD has been worked out based on loan details given in Form-9C for the transmission



assets. Accordingly, based on the information furnished by the Petitioner, IDC considered, is as follows:

(₹ in lakh)						
Asset	IDC Claimed	IDC allowed	IDC dis-allowed due to time over-run/ computational difference	IDC discharged as on COD	IDC un-discharged as on COD	IDC discharged during 2020-21
	A	B	C=(A-B)	D	E=(B-D)	F
Asset-1	61.53	-	61.53	-	-	-
Asset-2	87.22	-	87.22	-	-	-

### **Incidental Expenditure During Construction (IEDC)**

36. The Petitioner vide affidavit dated 25.6.2020 has submitted that the entire amount of IEDC for Asset 1 has been discharged as on COD. Also, entire IEDC amount mentioned in the Auditor's Certificate dated 16.5.2020 is on cash basis and is paid-up to COD.

37. The Petitioner vide affidavit dated 2.3.2021 has submitted that the entire amount of IEDC for Asset 2 has been discharged as on COD. Also, entire IEDC amount mentioned in the revised Auditor's Certificate dated 22.10.2020 is on cash basis and is paid up to COD.

38. We have considered the submissions of the Petitioner and note that IEDC for Asset-1 and Asset-2 has been claimed based on the Auditor's Certificate/ revised Auditor's Certificate as submitted by the Petitioner. As IEDC claimed is within limit as per FR/RCE, pro-rata IEDC allowed and IEDC dis-allowed for the transmission assets are as follows:

(₹ in lakh)			
Asset	IEDC claimed as per Auditor's Certificate/ revised Auditor's Certificate	Pro-rata IEDC disallowed due to time over-run	Pro-rata IEDC allowed as on COD
	1	2	3=(1-2)
Asset-1	77.09	23.65	53.44
Asset-2	102.91	39.08	63.83



## Capital Cost allowed as on COD

39. In view of the above, the capital cost allowed in respect of the transmission assets as on COD is summarized as follows:

(₹ in lakh)					
Asset	Capital Cost claimed in Auditor's Certificate/ revised Auditor's Certificate as on COD (A)	IDC dis-allowed due to time over-run/ computational difference (B)	Un-discharged IDC as on COD (C)	IEDC dis-allowed (D)	Expenditure up to COD (D) = (A-B-C)
Asset-1	2280.17	61.53	-	23.65	2194.99
Asset-2	2547.63	87.22	-	39.08	2421.33

## Additional Capital Expenditure

40. Regulation 24 of the 2019 Tariff Regulations provides as follows:

### ***"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."*

41. The Petitioner has submitted that the admissibility of ACE incurred after COD is to be dealt in accordance with the provisions of Regulation 24 of the 2019 Tariff Regulations. Also, ACE incurred/ projected to be incurred is mainly on account of



Balance/ Retention Payments and, hence, the same may be allowed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The details of underlying reasons for ACE are given in respective Form-7 as submitted by the Petitioner.

42. The Petitioner vide affidavit dated 15.9.2021 has submitted that ACE claimed with respect to the transmission assets is within and beyond the cut-off date and is within the original scope of work. Also, ACE claimed during the 2019-24 tariff period has been submitted in the format wherein party-wise outstanding liability as on COD, discharge (year-wise) and additional liability recognized details have been submitted.

43. TANGEDCO has submitted that ACE with respect to Asset 2 works out to be ₹219.19 lakh and not ₹242.99 lakh (as has been claimed in this petition). Further, the said discrepancy should be cleared by the Petitioner.

44. In response, the Petitioner has submitted that ACE for Asset 2 in 2020-2021 of ₹242.99 lakh, as stated by TANGEDCO, was the estimated expenditure as per the Anticipated Management Certificate submitted along with this petition. The said Certificate was subsequently revised after the declaration of COD for Asset 2. The revised Auditor's Certificate dated 22.10.2020 for Asset 2 with actual COD as 30.07.2020 has been submitted vide affidavit dated 2.3.2021. ACE for Asset 2 in 2020-2021 according to the said revised Auditor's Certificate is ₹219.19 lakh.

45. We have considered the submissions of the Petitioner and TANGEDCO. The Petitioner has claimed ACE for the 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 and unexecuted works within cut-off date. The Petitioner has claimed ACE of ₹218.93 lakh in 2020-21 for Asset 1 as per the Auditor's Certificate dated





16.5.2020 and ACE of ₹219.19 lakh in 2020-21 for Asset-2 has been claimed as per the revised Auditor's Certificate dated 22.10.2020.

46. In view of the foregoing, we observe that as ACE claimed is on account of balance and retention payments, it is allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations.

**Capital Cost for the 2019-24 tariff period**

47. In view of the above, the capital cost considered for the transmission assets for the 2019-24 tariff period is as follows:

Asset	Capital Cost (as on COD)	Admitted ACE	Capital Cost (as on 31.3.2024)
		2021-22	
Asset-1	2194.99	218.93	2413.92
Asset-2	2421.33	219.19	2640.52
<b>Total</b>	<b>4616.32</b>	<b>438.12</b>	<b>5054.44</b>

(₹ in lakh)

**Debt-Equity Ratio**

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

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

*Provided that:*

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

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

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



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

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

Funding	Capital Cost as on COD (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
<b>Asset-1</b>				
Debt	1536.50	70.00	1689.75	70.00
Equity	658.50	30.00	724.17	30.00
<b>Total</b>	<b>2194.99</b>	<b>100.00</b>	<b>2413.92</b>	<b>100.00</b>
<b>Asset-2</b>				
Debt	1694.93	70.00	1848.36	70.00
Equity	726.39	30.00	792.16	30.00
<b>Total</b>	<b>2421.33</b>	<b>100.00</b>	<b>2640.52</b>	<b>100.00</b>

### **Depreciation**

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



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

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

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

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

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

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

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

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

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

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

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

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

(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of



useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

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

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

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

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

51. The Gross Block in respect of the transmission assets during the 2019-24 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD). WAROD at Annexure-I and II has been worked out after considering the depreciation rates of assets as specified in the 2019 Tariff Regulations. The depreciation has been worked out considering the admitted capital expenditure as on COD and ACE in the 2019-24 period. The depreciation allowed for the transmission assets is as follows:

		(₹ in lakh)				
		Asset 1				
	Particulars	2019-20 (Pro-rata for 4 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	2194.99	2194.99	2413.92	2413.92	2413.92
B	Addition during the year 2019-24 due to projected ACE	0.00	218.93	0.00	0.00	0.00
C	Closing Gross Block (A+B)	2194.99	2413.92	2413.92	2413.92	2413.92
D	Average Gross Block [(A+C)/2]	2194.99	2304.46	2413.92	2413.92	2413.92
E	Weighted average rate of Depreciation (WAROD) (in %) [(J/D) X 100]	5.28	5.28	5.28	5.28	5.28
F	Lapsed useful life at the beginning of the year (Year)	0	0	1	2	3
G	Balance useful life at the beginning of the year (Year)	25	25	24	23	22
H	Aggregated Depreciable Value (90% of D)	1975.49	2074.01	2172.53	2172.53	2172.53



I	Remaining Aggregate Depreciable Value at the beginning of the year	1975.49	2072.75	2049.59	1922.13	1794.68
J	<b>Depreciation during the year</b>	<b>1.27</b>	<b>121.68</b>	<b>127.46</b>	<b>127.46</b>	<b>127.46</b>
K	Cumulative Depreciation at the end of the year	1.27	122.94	250.40	377.85	505.31
L	Remaining Aggregate Depreciable Value at the end of the year (I-J)	1974.23	1951.07	1922.13	1794.68	1667.22

(₹ in lakh)

		Asset 2			
	Particulars	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
A	Opening Gross Block	2421.33	2640.52	2640.52	2640.52
B	Addition during the year 2019-24 due to projected ACE	219.19	0.00	0.00	0.00
C	Closing Gross Block (A+B)	2640.52	2640.52	2640.52	2640.52
D	Average Gross Block [(A+C)/2]	2530.93	2640.52	2640.52	2640.52
E	Weighted average rate of Depreciation (WAROD) (in %) [(J/D) X100]	5.28	5.28	5.28	5.28
F	Lapsed useful life at the beginning of the year (Year)	0	0	1	2
G	Balance useful life at the beginning of the year (Year)	25	25	24	23
H	Aggregated Depreciable Value (90% of D)	2277.83	2376.47	2376.47	2376.47
I	Remaining Aggregate Depreciable Value at the beginning of the year	2277.83	2286.77	2147.35	2007.93
J	<b>Depreciation during the year</b>	<b>89.70</b>	<b>139.42</b>	<b>139.42</b>	<b>139.42</b>
K	Cumulative Depreciation at the end of the year	89.70	229.12	368.54	507.96
L	Remaining Aggregate Depreciable Value at the end of the year (I-J)	2188.13	2147.35	2007.93	1868.51

### Interest on Loan (IoL)

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

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

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

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

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

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

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

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



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

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

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

53. The Petitioner has submitted that in the tariff calculation for the 2019-24 period, IoL has been calculated on the basis of rate prevailing as on COD/ 1.4.2019 for respective loans and has further prayed that the change in interest rate due to floating rate of interest applicable, if any, needs to be claimed/ adjusted over the tariff period of 5 years directly from/ with the beneficiaries.

54. We have considered the submissions of the Petitioner. WAROI on loan has been considered on the basis of the rate prevailing as on COD for respective loans. As the Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period may be adjusted. Accordingly, the floating rate of interest, if any, will be considered at the time of true up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the transmission assets is as follows:

(₹ in lakh)

		Asset 1				
	Particulars	2019-20 (Pro-rata for 4 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	1536.50	1536.50	1689.75	1689.75	1689.75
B	Cumulative Repayments up to Previous Year	0.00	1.27	122.94	250.40	377.85
C	Net Loan-Opening (A-B)	1536.50	1535.23	1566.81	1439.35	1311.90
D	Addition due to ACE	0.00	153.25	0.00	0.00	0.00
E	Repayment during the year	1.27	121.68	127.46	127.46	127.46
F	Net Loan-Closing (C+D-E)	1535.23	1566.81	1439.35	1311.90	1184.44
G	Average Loan [(A+F)/2]	1535.86	1551.02	1503.08	1375.62	1248.17
H	Weighted Average Rate of	7.437	7.438	7.438	7.438	7.438





	Interest on Loan (in %)					
<b>I</b>	<b>Interest on Loan (G*H)</b>	<b>1.25</b>	<b>115.36</b>	<b>111.80</b>	<b>102.32</b>	<b>92.84</b>

(₹ in lakh)

Asset 2					
	Particulars	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
A	Gross Normative Loan	1694.93	1848.36	1848.36	1848.36
B	Cumulative Repayments up to Previous Year	0.00	89.70	229.12	368.54
C	Net Loan-Opening (A-B)	1694.93	1758.67	1619.25	1479.83
D	Addition due to ACE	153.43	0.00	0.00	0.00
E	Repayment during the year	89.70	139.42	139.42	139.42
F	Net Loan-Closing (C+D-E)	1758.67	1619.25	1479.83	1340.41
G	Average Loan [(A+F)/2]	1726.80	1688.96	1549.54	1410.12
H	Weighted Average Rate of Interest on Loan (in %)	7.2040	7.2008	7.1997	7.1997
<b>I</b>	<b>Interest on Loan (G*H)</b>	<b>83.50</b>	<b>121.62</b>	<b>111.56</b>	<b>101.52</b>

### Return on Equity (RoE)

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

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

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

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

Provided further that:

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

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





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

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

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

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

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

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

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.”*

56. The Petitioner has submitted that it is liable to pay Income Tax at MAT rate specified under the Taxation Laws (Amendment) Ordinance 2019. Further, RoE has been calculated @18.782% after grossing up RoE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the formula given in Regulation 31(2) of the 2019 Tariff Regulations for 2019-24 tariff period. As per Regulation 31(3) of the 2019 Tariff Regulations, the grossed-up rate of RoE at the end of every financial year shall be trued-up 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 IT authorities pertaining to 2019-24 tariff period on actual gross income. However, if any penalty arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the Petitioner. Any under-recovery or over-recovery of grossed-up rate on RoE after truing up shall be recovered or refunded to the long-term customers on yearly basis. The Petitioner has further submitted that any adjustment due to additional tax demand including interest duly adjusted for any refund of tax including interest received from IT authorities shall be recoverable/ adjustable during 2019-24 tariff period on yearly basis on receipt of Income Tax assessment order.

57. We have considered the submissions of the Petitioner. MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations.



RoE allowed for the transmission assets for the 2019-24 tariff period is as follows:

(₹ in lakh)

Asset 1						
	Particulars	2019-20 (Pro-rata for 4 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	658.50	658.50	724.17	724.17	724.17
B	Addition due to ACE	0.00	65.68	0.00	0.00	0.00
C	Closing Equity (A+B)	658.50	724.17	724.17	724.17	724.17
D	Average Equity [(A+C)/2]	658.50	691.34	724.17	724.17	724.17
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (Pre-tax) (in %)	18.782	18.782	18.782	18.782	18.782
H	<b>Return on Equity (Pre-tax) (E*G)</b>	<b>1.35</b>	<b>129.85</b>	<b>136.01</b>	<b>136.01</b>	<b>136.01</b>

(₹ in lakh)

Asset-2					
	Particulars	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
A	Opening Equity	726.40	792.16	792.16	792.16
B	Addition due to ACE	65.76	0.00	0.00	0.00
C	Closing Equity (A+B)	792.16	792.16	792.16	792.16
D	Average Equity [(A+C)/2]	759.28	792.16	792.16	792.16
E	Return on Equity (Base Rate) (in %)	15.50%	15.50%	15.50%	15.50%
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472
G	Rate of Return on Equity (Pre-tax) (in %)	18.782	18.782	18.782	18.782
H	<b>Return on Equity (Pre-tax) (E*G)</b>	<b>95.72</b>	<b>148.78</b>	<b>148.78</b>	<b>148.78</b>

### **Operation & Maintenance Expenses (O&M Expenses)**

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

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

...

**(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
<b>Norms for sub-station Bays (₹ Lakh per bay)</b>					
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
<b>Norms for Transformers (₹ Lakh per MVA)</b>					
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
<b>Norms for AC and HVDC lines (₹ Lakh per km)</b>					
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
<b>Norms for HVDC stations</b>					
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  $\pm 500$  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  $\pm 500$  kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
- iv. *the O&M expenses of  $\pm 800$  kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme;*
- v. *the O&M expenses of  $\pm 800$  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  $\pm 800$  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.”*

59. The Petitioner has submitted that the norms for O&M Expenses for Gazuwaka HVDC Back-to-Back Station is based on actual O&M Expenses for 2014-19 period, which does not include the instant spare Converter Transformers. Accordingly, O&M Expenses for the transmission assets have been claimed considering O&M norms for transformers based on MVA rating.

60. The Petitioner has submitted that the transmission charges submitted in this petition is inclusive of O&M Expenses derived for the transmission asset based on the norms for O&M expenditure for Transmission System as specified under Regulation



35(3)(a) of the 2019 Tariff Regulations but excludes security expenses and capital spares as provided in the said Tariff Regulations.

61. The O&M Expenses as claimed by the Petitioner for the transmission asset are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Asset-1</b>					
<b>Transformers</b>					
400 kV (MVA capacity)	201	201	201	201	201
<b>Norm (₹ lakh/MVA)</b>					
400 kV	0.358	0.371	0.384	0.398	0.411
<b>Sub-Total Transformer expenses</b>	<b>0.79</b>	<b>74.57</b>	<b>77.18</b>	<b>80.00</b>	<b>82.61</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>0.79</b>	<b>74.57</b>	<b>77.18</b>	<b>80.00</b>	<b>82.61</b>
<b>Asset-2</b>					
<b>Transformers</b>					
400 kV (MVA capacity)	-	234	234	234	234
<b>Norm (₹ lakh/MVA)</b>					
400 kV	-	0.371	0.384	0.398	0.411
<b>Sub-Total Transformer expenses</b>	<b>-</b>	<b>58.27</b>	<b>89.86</b>	<b>93.13</b>	<b>96.17</b>
<b>Total O&amp;M Expenses (₹ in lakh)</b>	<b>-</b>	<b>58.27</b>	<b>89.86</b>	<b>93.13</b>	<b>96.17</b>

62. We have considered the submissions of the Petitioner and note that the Petitioner has claimed O&M Expenses for the transmission assets as per the normative O&M Expenses rates provided in Regulation 35(3)(a) of the 2019 Tariff Regulations. The Commission vide order dated 24.1.2021 in Petition No. 136/TT/2020 had dealt with the issue relating to O&M Expenses for spares ICTs. The relevant extract of the said order is as follows:

*“28. We are also not convinced with the Petitioner’s clarification that it has not claimed O&M Expenses for the 2014-19 tariff period since the 2019 Tariff Regulations provide for O&M Expenses for transformers based on their rating. The norms specified in the 2019 Tariff Regulations are for transmission elements that are in regular use and not for spares which are used only in case of any eventualities. As already stated earlier, the „assets in use as spares“ are being granted tariff only on the basis of consent and approval of the concerned Regional Power Committee and as these assets are not being in regular use, we are of the view that O&M Expenses cannot be granted to the transmission assets. Accordingly, O&M Expenses are not allowed for the Combined Asset for the 2019-24 tariff period. We also feel that it is pertinent to mention here that disallowance of O&M Expenses for the Combined Asset does not mean that they do not need any maintenance and the consequent expenditure. The Combined Asset requires maintenance and the expenditure involved in maintaining them would be miniscule compared to the O&M Expenses in respect of transformers put to regular use. We are also of the view that the Petitioner should meet this expenditure from the O&M*





*Expenses allowed for the regular ICTs installed at Mandola and Ludhiana in Northern Region. In case, the expenses are unusually high and cannot be met from the O&M Expenses allowed for the regular ICTs, the Petitioner may approach the Commission with certification of O&M Expenses from RPC at the time of true-up.”*

63. The instant transmission assets are Spare Converter transformer for Vizag HVDC System. Therefore, in view of the foregoing findings, as the transmission assets in this petition are spare converter transformers, O&M Expenses for the same are not allowed. However, the Petitioner has not indicated whether the spare converter transformers have been kept in Hot or Cold condition. Therefore, the Petitioner is directed to clarify at the time of truing up whether the spare converter transformers are kept in Hot or Cold condition and based on the condition of the converter transformer, the O&M expenses will be reviewed at the time of truing up.

#### **Interest on Working Capital**

64. Regulations 34(1)(c), 34(3) and 34(4) and 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. Definitions ...

(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;”

65. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of interest considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, for 2020-21 has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas 2021-22 onwards has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points).

66. We have considered the submissions of the Petitioner. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations and the components of the working capital and interest allowed thereon for the transmission assets for the 2019-24 tariff period are as follows:

(₹ in lakh)

Particulars	Asset 1				
	2019-20 (Pro-rata for 4 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	44.15	45.87	46.87	45.69	44.38
<b>Total Working Capital</b>	<b>44.15</b>	<b>45.87</b>	<b>46.87</b>	<b>45.69</b>	<b>44.38</b>
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
<b>Interest of Working Capital</b>	<b>0.06</b>	<b>5.16</b>	<b>4.92</b>	<b>4.80</b>	<b>4.66</b>



(₹ in lakh)

Asset 2				
Particulars	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	49.95	51.19	49.93	48.68
<b>Total Working Capital</b>	<b>49.95</b>	<b>51.19</b>	<b>49.93</b>	<b>48.68</b>
Rate of Interest for working capital (in %)	11.25	10.50	10.50	10.50
<b>Interest of working capital</b>	<b>3.77</b>	<b>5.37</b>	<b>5.24</b>	<b>5.11</b>

### Annual Fixed Charges of the 2019-24 Tariff Period

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

(₹ in lakh)

Asset 1					
Particulars	2019-20 (Pro-rata for 4 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	1.27	121.68	127.46	127.46	127.46
Interest on Loan	1.25	115.36	111.80	102.32	92.84
Return on Equity	1.35	129.85	136.01	136.01	136.01
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.06	5.16	4.92	4.80	4.66
<b>Total</b>	<b>3.92</b>	<b>372.04</b>	<b>380.20</b>	<b>370.59</b>	<b>360.97</b>

(₹ in lakh)

Asset 2				
Particulars	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
Depreciation	89.70	139.42	139.42	139.42
Interest on Loan	83.50	121.62	111.56	101.52
Return on Equity	95.72	148.78	148.78	148.78
O&M Expenses	3.77	5.37	5.24	5.11
Interest on Working Capital	0.00	0.00	0.00	0.00
<b>Total</b>	<b>272.69</b>	<b>415.19</b>	<b>405.01</b>	<b>394.84</b>

### Filing Fee and Publication Expenses

68. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The Petitioner shall be entitled for reimbursement of the



filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

### **Licence Fee & RLDC Fees and Charges**

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

### **Goods and Services Tax**

70. 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.

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

### **Security Expenses**

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

73. 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 the 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, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Accordingly, 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**

74. 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**

75. With effect from 1.11.2020 (after repeal of the 2010 Sharing Regulations), sharing of transmission charges is governed by 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 the 2019 Tariff Regulations and the 2020 Sharing Regulations and shall be recovered from the concerned DICs through bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of the 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.

76. To summarise:

- a) The Annual Fixed Charges (AFC) allowed for the transmission assets for the 2019-24 tariff period in the instant order are as follows:

Asset	(₹ in lakh)				
	2019-20 (Pro-rata for 4 days)	2020-21	2021-22	2022-23	2023-24
Asset-1	3.92	372.04	380.20	370.59	360.97

Asset	(₹ in lakh)			
	2020-21 (Pro-rata for 245 days)	2021-22	2022-23	2023-24
Asset-2	272.69	415.19	405.01	394.84



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

78. This order disposes of Petition No. 664/TT/2020 in terms of the above discussions and findings.

sd/-

**(P. K. Singh)**  
**Member**

sd/-

**(Arun Goyal)**  
**Member**

sd/-

**(I. S. Jha)**  
**Member**

sd/-

**(P. K. Pujari)**  
**Chairperson**



**Annexure-I (Asset1)**

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on COD (₹ in lakh)	ACE			Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per the 2019 Tariff Regulations				
		2019-20	2020-21	2021-22			2019-20 (₹ in lakh)	2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Sub-station	2194.99	218.93	-	-	2413.92	5.28	115.90	121.68	127.46	127.46	127.46
<b>TOTAL</b>	<b>2194.99</b>	<b>218.93</b>	<b>-</b>	<b>-</b>	<b>2413.92</b>		<b>115.90</b>	<b>121.68</b>	<b>127.46</b>	<b>127.46</b>	<b>127.46</b>
<b>Average Gross Block (₹ in lakh)</b>							2194.99	2304.46	2413.92	2413.92	2413.92
<b>Weighted Average Rate of Depreciation (in %)</b>							5.28	5.28	5.28	5.28	5.28



## Annexure-II (Asset 2)

2019-24 Capital Expenditure as on 1.4.2019	Admitted Capital Cost as on COD (₹ in lakh)	ACE			Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per the 2019 Tariff Regulations			
		2019-20	2020-21	2021-22			2020-21 (₹ in lakh)	2021-22 (₹ in lakh)	2022-23 (₹ in lakh)	2023-24 (₹ in lakh)
Sub-station	2421.33	-	219.19	-	2640.52	5.28	133.63	139.42	139.42	139.42
<b>TOTAL</b>	<b>2421.33</b>	<b>-</b>	<b>219.19</b>	<b>-</b>	<b>2640.52</b>		<b>133.63</b>	139.42	139.42	139.42
<b>Average Gross Block (₹ in lakh)</b>							2530.93	2640.52	2640.52	2640.52
<b>Weighted Average Rate of Depreciation (in %)</b>							5.28	5.28	5.28	5.28

