

**Central Electricity Regulatory Commission  
New Delhi**

**Petition No. 389/TT/2023**

**Coram:**

**Shri Jishnu Barua, Chairperson  
Shri Ramesh Babu V, Member  
Shri Harish Dudani, Member**

**Date of Order: 04.11.2024**

**In the matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for the determination of transmission tariff from COD to 31.3.2024 for a transmission asset, namely, 500 MVA, 400/220 kV ICT-8 along with associated 400 kV and 220 kV bays at Bhadla Sub-station under "Implementation of the 1x500 MVA, 400/220 kV ICT (8th) at Bhadla Pooling Station Scheme in Northern Region".

**And in the matter of:**

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

...**Petitioner**

**Vs.**

- 1. Ajmer Vidyut Vitran Nigam Limited,**  
Corporate Office, Vidyut Bhawan,  
Panchsheel Nagar, Makarwali Road,  
Ajmer-305004 (Rajasthan).
- 2. Jaipur Vidyut Vitran Nigam Limited,**  
132 kV, GSS RVPNL Sub-Station Building,  
Caligiri Road, Malviya Nagar,  
Jaipur-302017 (Rajasthan).
- 3. Jodhpur Vidyut Vitran Nigam Limited,**  
New Power House, Industrial Area,  
Jodhpur-342003(Rajasthan).
- 4. Himachal Pradesh State Electricity Board Limited,**  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla-171004.



5. **Uttar Pradesh Power Corporation Limited,**  
Shakti Bhawan, 14, Ashok Marg  
Lucknow-226001.
6. **Haryana Power Purchase Centre,**  
Shakti Bhawan, Sector-6,  
Panchkula (Haryana)-134109.
7. **Jammu Kashmir Power Corporation Limited,**  
220/66/33 kV Gladni Ss SLDC Building,  
Narwal, Jammu.
8. **Punjab State Power Corporation Limited,**  
The Mall, PSEB Head Office, Patiala - 147001.
9. **BSES Yamuna Power Limited,**  
B-Block, Shakti Kiran Building (Near Karkadooma Court),  
Karkadooma, 2<sup>nd</sup> Floor,  
New Delhi-110092.
10. **BSES Rajdhani Power Limited,**  
BSES Bhawan, Nehru Place,  
New Delhi.
11. **Tata Power Delhi Distribution Limited,**  
33 kV Substation Building,  
Hudson Lane, Kingsway Camp,  
North Delhi-110009.
12. **Uttarakhand Power Corporation Limited,**  
Urja Bhawan, Kanwali Road,  
Dehradun.
13. **North Central Railway,**  
Allahabad.
14. **New Delhi Municipal Council,**  
Palika Kendra, Sansad Marg,  
New Delhi-110002.
15. **Chandigarh Electricity Department,**  
UT-Chandigarh, Div-11, Opposite, Transport Nagar,  
Industrial Area Phase - I, Chandigarh.



**16. Central Transmission Utility of India Limited (CTUIL),**

First Floor, Saudamini, Plot no-2,  
Near IFFCO Chowk metro station  
Gurgaon-122001, Haryana.

**17. Tata Power Renewable Energy Limited,**

C/o The Tata Power Company Limited  
Corporate center A block, 34 Sant Tukaram Road,  
Carnac Bunder,  
Mumbai – 400009, Maharashtra.

...Respondents

**Parties Present** : Shri Vivek Kumar Singh, PGCIL  
Shri V.C. Shekhar, PGCIL

**ORDER**

The instant Petition has been filed by the Power Grid Corporation of India Limited for the determination of transmission tariff under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) from COD to 31.3.2024 in respect of the transmission asset, namely, 500 MVA, 400/220 kV ICT-8 along with associated 400 kV and 220 kV bays at Bhadla Sub-station (hereinafter referred to as “the transmission asset”) under “Implementation of the 1x500 MVA, 400/220 kV ICT (8th) at Bhadla Pooling Station Scheme in Northern Region” (hereinafter referred to as “the transmission scheme”).

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 – 8.3 above.*
- 3) Condoned the Time overrun in commissioning of the instant asset.*
- 4) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2019 as per para*



8 above for respective block.

- 5) *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.*
- 6) *Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 7) *Allow the Petitioner to claim the overall security expenses and consequential IOWC on that security expenses separately.*
- 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 existing 765/400/220 kV Bhadla (PG) Sub-station was developed as a part of the "Transmission System for Ultra Mega Solar Parks in Bhadla, Distt. Rajasthan" scheme with 765/400 kV, 3x1500 MVA and 400/220 kV, 3x500 MVA ICTs with future provisions to connect upcoming Solar Energy Parks. Bhadla (PG) Sub-station was agreed upon in the 36th Standing Committee Meeting on Power System Planning of NR held on 13.7.2015 as well as in the 37th Standing Committee Meeting on Power System Planning of NR held on 20.1.2016. For evacuation of 3380 MW power from Solar Generation Projects/Solar Parks near Bhadla, 7 Nos. 500 MVA



ICTs were implemented at Bhadla Pooling Station. Subsequently, 150 MW LTA to M/s Tata Power was also granted in NR's 14th Connectivity/LTA meeting held on 17.8.2018. Thus, the total LTA from Bhadla, including evacuation of power from Solar Generation Projects/Solar Parks along with this LTA, became 3530 MW against the already planned transformation capacity of 3500 MW. In view of the above, the 8th ICT 400/220 kV, 1x500 MVA at Bhadla Pooling Station was agreed upon in the 2nd meeting of the Northern Regional Power Committee (Transmission Planning) (NRPCTP) held on 1.9.2020 as a Strengthening Scheme for meeting the N-1 criteria.

- b. The transmission scheme was discussed and agreed upon in the 2nd meeting of the Northern Regional Power Committee (Transmission Planning) (NRPCTP) held on 1.9.2020 and in the 47th TCC and 49th Northern Regional Power Committee (NRPC) meeting held on 27.9.2021. The transmission scheme was also recommended for implementation through the Regulated Tariff Mechanism (RTM) route in the 4th meeting of the National Committee on Transmission (NCT) held on 20.1.2021 and 28.1.2021. Subsequently, the Ministry of Power (MoP), Government of India, vide OM (Ref. No. 15/3/2018-Trans-Part (1)) dated 16.7.2021, awarded the transmission scheme to the Central Transmission Utility of India Limited (CTUIL) for implementation under the RTM route by the Petitioner, with an implementation schedule of 15 months from the date of the MoP OM allocating the same. Further, CTUIL, vide letter no. CTU/00/AI/RTM dated 16.7.2021 awarded the transmission scheme to be implemented by the Petitioner.



c. The Investment Approval (IA) for the transmission scheme was granted by the competent authority of the Petitioner on 25.10.2021 and communicated vide Memorandum No. C/CP/PA2122-07-0S-IA018 dated 26.10.2021, at an estimated cost of ₹5630.00 lakh, including an Interest During Construction (IDC) of ₹156.00 lakh based on the June 2021 price level. The transmission scheme was scheduled to be commissioned within 12 months from the date of the IA.

4. The scope of work covered under the transmission scheme broadly includes:

**Sub-station**

Augmentation with 400/220 kV, 1X500 MVA, Transformer (8th) at Bhadla (PG) Pooling Station.

**400 kV**

Transformer bays : 1 No.  
500 MVA, 400/220 kV ICT : 1 No.

**220 kV**

Transformer bays : 1 No.

5. The entire scope of the transmission scheme has been completed and is covered in the instant Petition. The details of the scheduled date of commercial operation (SCOD), date of commercial operation (COD), and time over-run with respect to the transmission asset are as follows:

Name of Asset	SCOD	COD	Time over-run
500 MVA, 400/220 kV ICT-8 along with associated 400 kV and 220 kV bays at Bhadla Sub-station	October 2022	31.3.2023	151 days

6. The Respondents, mainly beneficiaries of the Northern Region, are Distribution Licensees, Railways, and Power Departments procuring transmission services from the Petitioner.

7. The Petitioner has served a copy of the Petition on the Respondents and notice regarding the filing of this Petition has also been published in the newspapers in



accordance with Section 64 of the Electricity Act, 2003 (the Act). No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. Respondent No. 16, Central Transmission Utility of India Limited (CTUIL), has filed its reply, vide affidavit dated 1.8.2024, in response to the direction given by the Commission vide its RoP dated 27.6.2024. The submissions made by the Petitioner and CTUIL have been considered in the subsequent paragraphs of this order.

8. The final hearing was held on 20.8.2024, and the order was reserved.

9. This order is being issued considering the submissions made by the Petitioner in the Petition vide affidavits dated 10.10.2023, 7.5.2024, and 17.7.2024 and submissions made by CTUIL vide affidavit dated 1.8.2024.

10. After hearing the Petitioner's representatives and perusing the material on record, we proceed to dispose of the Petition.

**Determination of Annual Fixed Charges (AFC) for the 2019-24 Tariff Period**

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

Particulars	(₹ in lakh)	
	2022-23 (pro-rata for 1 day)	2023-24
Depreciation	0.31	155.76
Interest on Loan	0.30	146.09
Return on Equity	0.33	165.07
O&M Expenses	0.72	268.25
Interest on Working Capital	0.04	16.27
<b>Total</b>	<b>1.70</b>	<b>751.44</b>

12. The Petitioner has claimed the following Interest on Working Capital (IWC) in respect of the transmission asset for the 2019-24 tariff period:



Particulars	(₹ in lakh)	
	2022-23 (pro-rata for 1 day)	2023-24
O&M Expenses	21.64	22.35
Maintenance Spares	38.94	40.24
Receivables	76.08	92.39
Total Working Capital	136.66	154.98
Rate of Interest (In %)	10.50	10.50
<b>Interest on Working Capital</b>	<b>0.04</b>	<b>16.27</b>

### **Date of Commercial Operation (COD)**

13. The Petitioner has claimed the transmission asset's COD as 31.3.2023. To support this claim, the Petitioner has submitted the CEA energization certificate, NRLDC charging certificate, self-declared COD letter, and CMD's certificate, as required under the Grid Code.

14. 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.”

15. We have considered the Petitioner's submissions. The relevant CEA energization certificate is extracted as under:

155

  
भारत सरकार  
Government of India  
विद्युत मंत्रालय/Ministry of Power  
केंद्रीय विद्युत प्राधिकरण/Central Electricity Authority  
क्षेत्रीय निरीक्षणालय कार्यालय (उत्तर)/Regional Inspectorial Organization (North)  
१८-ए, शाहीद जीत सिंह मार्ग, कटवारिया सराय, नई दिल्ली-११००१६  
18-A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110016

**NRIO/PGCIL-339/Bhadla SS-I/Bikaner/Raj./2023/422** **Dated: 25.03.2023**

**Approval for Energization**

[Under Regulation 43 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 (as amended)]

**Electrical Installation: -**

<b>Details: -</b> List of equipment is provided at Annexure-I.
<b>Inspected by: -</b> Shri Mukul Kumar, Assistant Director, CEA on 18-03-2023.
<b>Location: -</b> 765/400/220kV Bhadla-I Substation
<b>Reference: -</b> 1. Your Online application No-A/2023/11106 dated 28-02-2023. 2. Our letter no. NRIO/PGCIL-339/Bhadla SS-I/Bikaner/Raj./2023/408 dated: 21-03-2023 (Inspection Report). 3. Your Compliance uploaded on portal on 25-03-2023. (Compliance Report).

With reference to the above, approval under regulation 43 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 (as amended) is hereby accorded for energisation of 400/220/33kV, 500MVA Autotransformer (ICT 08) of M/s PGCIL as given above.

The consistent compliance of relevant provisions of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 (as amended) shall be ensured for safety in operation and maintenance of the above electrical installation.

Periodical inspection of the above electrical installation shall be **due after 02 years** from the date of this inspection under regulation 30 of CEA (Measures relating to safety and Electric Supply) Regulations, 2010 (as amended). This periodicity is subject to change by government notification.

*Mukul Kumar*  
(Mukul Kumar)  
Assistant Director

16. The relevant RLDC certificate is extracted as under:





**ग्रिड-इंडिया**  
**GRID-INDIA**

**ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड**  
**GRID CONTROLLER OF INDIA LIMITED**

(A Government of India Enterprise)

(Formerly Power System Operation Corporation Limited (PSO))

एन.सी.पी.ए. मार्ग, नया दिल्ली - 110002 (North-West Regional Control Dispatch Centre)

Regional Office: 110002, New Delhi (PSO) (Formerly PSO), Regional Office, North-West Regional Control Dispatch Centre, New Delhi - 110002  
Office: 110002, New Delhi, India (Formerly PSO) (Formerly PSO), Regional Office, North-West Regional Control Dispatch Centre, New Delhi - 110002  
CIN: 111010531 200009100000 Website: www.gridco.in Email: info@gridco.in Tel: 011-26064016, 26064017

Certificate Number: GRID-INDIA/NRLDC/SO/424 - 2023

Date: 21-04-2023

**Certificate of completion of Trial Operation of 400/220KV 500MVA ICT-08 at Bhadla(PG) along with associated Bays (400kV Side 428, 429 and 220kV side 236).**

Reference:

1. POWERGRID Communication dated 16 Feb 2023 23:06, 25 Mar 2023 18:43, 26 Mar2023 12:41 and 28 Mar 2023 12:27 regarding the submission of pre charging documents for -

i. 400/220/33kV,500 MVA, 3-Phase, BHEL, ICT - 8 at Bhadla(PG)

ii. 400kV Main Bay 428 of 500MVA ICT-8 at Bhadla(PG)

iii. 400kV Tie Bay 429 of 500MVA ICT-8 and Future at Bhadla(PG)

iv. 220kV Main Bay 236 of 500MVA ICT-8 at Bhadla(PG)

2. Real time code issued by NRLDC on request of POWERGRID Real Time Code No-6877,6876, 6884

3. POWERGRID , Communication dated 04 Apr 2023 16:06 and 16 Apr 2023 12:43, regarding the submission of post charging documents.

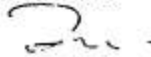
Based on above references, it is hereby certified that the following transmission elements have been successfully completed the trial operation:

Name of the Transmission Asset:	1. 400/220KV, 500MVA ICT-08 at Bhadla(PG) along with associated Bays (400kV Side Main-428, Tie- 429 and 220kV side Main-236).
Owner of the Transmission Asset:	POWERGRID
Date and Time of Energization for commencement of successful trial run operation	1. 29.03.2023- 16:30 hrs
Date/Time of completion of successful trial run operation	1. 30.03.2023- 16:30 hrs.

**Note:**

There is one and half breaker scheme at Bhadla(PG) and complete dia is in charged condition through Main Bay 430(Isolator Only) of future element at Bhadla(PG).

This certificate is being issued in accordance with Regulation 6.3(A)(5) of CERC(Indian Electricity Grid Code) Regulation,2010 to certify successful completion of trial operation of transmission element. Usage of this certificate for any other purpose is prohibited.

  
R K Porwal  
Executive Director

17. Considering the CEA energization certificate dated 25.3.2023, the NRLDC charging certificate dated 21.4.2023 certifying the successful completion of the trial run on 30.3.2023, the self-declared COD letter dated 31.3.2023, and the CMD's certificate, the COD of the transmission asset is approved as 31.3.2023.

**Capital cost**

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

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

- (a) *Capital cost admitted by the Commission prior to 1.4.2019 duly 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 renovation and modernisation as admitted by this Commission in accordance with these regulations;*
- (d) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (e) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating*



- station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.
- (4) The capital cost in case of existing or new hydro generating station shall also include:
- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.
- (5) The following shall be excluded from the capital cost of the existing and new projects:
- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:  
Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment;
- Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.
- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

19. The Petitioner has submitted the Auditor's Certificate dated 14.8.2023 and has claimed the capital cost and projected Additional Capital Expenditure (ACE) in respect of the transmission asset as follows:

FR approved cost	Cost up to COD	ACE			Estimated completion cost as on 31.3.2027
		2023-24	2024-25	2025-26	
5630.30	2154.75	1562.11	446.31	223.16	4386.33

### **Cost Overrun**

20. The Petitioner has submitted that the total approved cost of the transmission



asset as per the IA is ₹5630.30 lakh, and the estimated completion cost is ₹4386.33 lakh. Therefore, there is no cost overrun with respect to the transmission asset. The Petitioner has further submitted that the cost variation concerning the transmission asset is mainly because of the variation in equipment cost and decrease in IDC/IEDC cost. The item-wise cost variation of ₹1243.97 lakh in the FR cost of ₹5630.30 lakh vis-à-vis estimated completion cost as on 31.3.2027 of ₹4386.33 lakh, is as follows:

(₹ in lakh)

	Description	Cost as per FR	Estimated capital cost	Variation
		a	b	c = b - a
B	<b>Sub-stations</b>			
1	Site Preparation	20.00	0	-20.00
2	Switchgear (CT, PT, CB, Isolator etc)	1638.08	1381.97	-256.11
3	Transformer	1940.21	1651.92	-288.29
4	Control, Relay & Protection Panel	32.80	74.66	41.86
5	Outdoor lighting & FF	142.00	19.94	-122.06
6	Power & Control Cable	8.97	110.81	101.84
7	SAS & IT Equipment's	0.00	44.3	44.30
8	Structure for switchyard	278.28	300.31	22.03
9	Erection	85.83	127.35	41.52
10	Spares	380.85	55.01	-325.84
11	Taxes and Duties	324.27	510.07	185.80
12	Overheads (IEDC) & Contingency	623.01	97.68	-525.33
13	Interest During Construction (IDC)	156.00	12.31	-143.69
	<b>TOTAL</b>	<b>5630.30</b>	<b>4386.33</b>	<b>-1243.97</b>

21. The details of cost variation in the estimated completion cost vis-à-vis the FR cost as submitted by the Petitioner are as follows:

**i. Decrease in IDC and IEDC cost**

There is a reduction of around ₹669 lakh (with respect to IDC and IEDC) based on the actual cost.

**ii. Variation in Equipment Cost**

Being a Government enterprise, the Petitioner has the obligation to the indigenous development of manufacturers, as well as to adhere to the



Government of India guidelines in vogue. Accordingly, the Petitioner has been following a well-laid-down procurement policy that ensures both transparency and competitiveness in the bidding process. The route of Domestic Competitive Bidding (DCB) has been followed to award the transmission scheme. Through this process, the lowest possible market prices for the required products and services, as per the detailed design, are obtained, and contracts are awarded on the basis of the lowest evaluated eligible bidder. The best competitive bid prices against the tenders may vary compared to the cost estimate, depending upon the prevailing market conditions and design and site requirements. The estimates were prepared by the Petitioner according to the well-defined procedures for cost estimation. The FR cost estimate is a broadly indicative cost worked out generally on the basis of average unit rates of recently awarded contracts and general practice. The cost received during the DCB process for transformers is higher than the estimated cost. The FR costs of individual items and materials are exclusive of taxes and duties, which have been indicated under a separate head, while the cost of items, as per the actual expenditure, is inclusive of taxes and duties. An increase of about ₹185 lakh is mainly due to the actual taxes and duties, octroi, custom duty, excise duty, Goods and Services Tax (GST), etc., which were paid based on the prevailing rates and charges raised by the respective concerned statutory authorities at the time of execution of the transmission scheme.

22. Citing the abovementioned details, the Petitioner has submitted that the cost variation under the transmission scheme was attributable to the inflationary trend prevailing at the time of the bidding process of various packages that are beyond the control of the Petitioner. Further, in compliance with the RoP dated 27.6.2024, the



Petitioner has submitted that the transformer (500 MVA ICT) commissioned at Bhadla Sub-station in the transmission scheme is a newly procured transformer and is not shifted from any other project. Further, the Petitioner has submitted that the ICT is also not a part of the Maintenance Spares, Regional Spares, or Insurance Spares.

23. We have considered the Petitioner's submissions. Compared to the FR cost, the estimated completion cost as on 31.3.2027 is less by ₹1243.97 lakh. Since the claimed capital cost as on 31.3.2024 of the transmission asset amounting to ₹3716.86 lakh and the estimated completion cost as on 31.3.2027 (i.e., the cut-off date) amounting to ₹4386.33 lakh are within the FR cost and, as such, there is no cost over-run with respect to the transmission asset. Petitioner, however, has not submitted the project cost approved by CTU at the time of award of the project under RTM. The Petitioner is advised to get approval from CTU for the same and submit it at the time of true up.

### **Time over-run**

24. As per the IA dated 25.10.2021, the SCOD of the transmission scheme was October 2022. Accordingly, the SCOD of the transmission asset has been considered as 31.10.2022, against which it was put into commercial operation on 31.3.2023 with a delay of 151 days. The Petitioner has submitted that the time over-run in the commissioning of the transmission asset was on account of a delay in obtaining the requisite shutdown approvals at the desired time. The Petitioner has further submitted that the transmission asset had to be commissioned in the existing 765/400/220 kV Bhadla (PG) Sub-station. Therefore, it was necessary to obtain multiple shutdowns for termination and pre-commissioning works. The Petitioner has submitted that there are 7x500 MVA, 400/220 kV ICTs at 400 kV GSS Bhadla. These ICTs are mainly used to step up the voltage to evacuate RE power through 400 kV lines to Jodhpur, Merta and Bikaner. Further, the Petitioner has submitted that the Long Term Access (LTA) of 3530 MW has already been



granted to the RE developers at Bhadla (PG) Sub-station against the planned transformation capacity of 3500 MVA. Therefore, the load sharing on all the ICTs is almost equal, and each ICT is loaded near the rated capacity of 500 MVA.

25. The Petitioner has also submitted that to facilitate the renewable (RE) generators for evacuation of RE powers of all generators in proportionate quantum, the 400/220 kV ICTs (7 Nos. required) to be operated continuously and most of the time all the 400/220 kV ICTs at Bhadla Sub-station were operating at full load capacity or overloading conditions. Sometimes, the load went up to 110% of the rated capacity with all fans and pumps operational. The Petitioner has further submitted that for the execution of the work (erection works) associated with the transmission asset, continuous shutdowns were required during the daytime. The Petitioner has submitted that requests for the same were made to the Northern Regional Load Despatch Centre (NRLDC) for these daytime shutdowns. However, the approval was granted for the intermittent shutdowns only, restricted to post-17:00 hours during off-peak solar generation, and subject to various conditions. The Petitioner has further submitted that intermittent shutdowns and associated conditions have severely limited the ability to carry out essential activities such as erection, bus stringing, bus-bar stability, and installation of GIB and bushings. Moreover, the Petitioner has submitted that it sought the requisite shutdowns during the various OCC meetings; however, several requests were denied due to various system and grid availability constraints.

26. The Petitioner has further submitted that the shutdowns were required continuously, as the secured and continuous shutdowns would have helped in better planning and speedy execution. However, the shutdowns were not provided continuously for the desired period and were approved intermittently and only after the off-peak time of solar generation, i.e., after 17:00 hours with various returning conditions, which led to





the loss of considerable time for availing the shutdowns. The Petitioner has, therefore, requested the Commission to condone the delay in the commissioning of the transmission asset, as the same was beyond the control of the Petitioner.

27. We have considered the submissions of the Petitioner and have gone through the documentary evidence placed on record to justify the time overrun. As per the IA dated 25.10.2021, the SCOD of the transmission asset was 31.10.2022. The transmission asset was put into commercial operation on 31.3.2023. Thus, there is a time over-run of 151 days in the commissioning of the transmission asset. The Petitioner has attributed the reasons for the time overrun in the case of the transmission asset to the delay in obtaining the shutdown approvals for the 500 MVA ICTs at Bhadla Sub-station. The Petitioner has claimed that the period from 31.10.2022 to 31.3.2023 was impacted by shutdown issues during the daytime. The Petitioner has submitted that continuous shutdowns were required during the daytime for erection works associated with the transmission asset.

28. We have perused the supporting documents submitted by the Petitioner. It is observed that the approved outage programme of generating stations and transmission lines in the 199th OCC and 203rd OCC meetings submitted by the Petitioner as a supporting document does not include any outage-related information for the transmission asset, namely, 400 kV, 500 MVA, ICT-8. The outage details submitted by the Petitioner are for ICT-4 and ICT-5 at Bhadla Sub-station. Further, the Petitioner has not provided any communications to substantiate that the Petitioner effectively took up the matter with the concerned authority for approval of the requisite shutdowns for the completion of work at the Bhadla Sub-station. Therefore, we are of the view that the documents submitted in support of the Petitioner's claim for the delay on account of the shutdown issues during the daytime, are not sufficient enough to justify the delay period in question. Therefore, the delay of 121 days (from 31.10.2022 to 28.2.2023), as claimed



by the Petitioner, is not condoned. Further, it is observed that the Petitioner has not submitted any supporting documents to substantiate the delay of 30 days (from 1.3.2023 to 31.3.2023, i.e., up to the COD). Therefore, the delay of 30 days from 1.3.2023 to 31.3.2023 is also not condoned. The Petitioner is granted liberty to submit the appropriate documents in this regard in the filing of trueing-up Petition.

29. For the reasons mentioned above in detail, the time over-run of 151 days from the SCOD, i.e., 31.10.2022, to the COD, i.e., 31.3.2023, is not condoned. The summary of the time over-run condoned/ not condoned in respect of the transmission asset is as follows:

SCOD as per IA	COD	Time over-run	Time over-run condoned	Time over-run not condoned
31.10.2022	31.3.2023	151 days	-	151 days

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

30. The Petitioner has claimed the IDC for the transmission asset and has submitted the statement showing IDC claim, discharge of IDC liability as on the COD and thereafter as under:

(₹ in lakh)		
IDC as per Auditor's Certificate	IDC discharged up to COD	IDC discharged during 2023-24
12.31	0.00	12.31

31. As discussed above in this order, we have not condoned the time over-run in commissioning the transmission asset. The IDC on a cash basis up to the COD has been worked out based on the loan details given in the statement showing the discharge of IDC and Form-9C for the transmission asset. Since the drawl dates of the borrowings for the transmission asset are after the allowable date of IDC, i.e., SCOD / modified COD, the entire amount of IDC claimed is disallowed, subject to true-up. The details of the



allowed IDC are as follows:

(₹ in lakh)

IDC as per Auditor's Certificate (A)	IDC disallowed due to time over-run not condoned / computational difference (B)	IDC Allowed (C)=(B)-(A)	Undischarged IDC (D)	IDC allowed as on COD (E)=(C)-(D)
12.31	12.31	0.00	0.00	0.00

32. The Petitioner has claimed the IEDC of ₹97.68 lakh for the transmission asset as per the Auditor's Certificate. The Petitioner has further submitted that the entire amount of IEDC for the transmission asset has been discharged up to the COD. As the time over-run for the transmission asset has not been condoned, the IEDC has been disallowed on a proportionate basis. The details of the IEDC claimed as per the Auditor's Certificate, IEDC considered, disallowed, and discharged up to the COD are as follows:

(₹ in lakh)

IEDC claimed as per Auditor's Certificate (A)	IEDC disallowed due to time over-run not condoned (B)	IEDC allowed (A)-(B)
97.68	28.26	69.42

### Initial Spares

33. The Initial Spares claimed by the Petitioner are as follows:

(₹ in lakh)

Particulars	Plant and Machinery cost for calculation of Initial Spares (a)	Initial Spares claimed (b)	Ceiling as per the Regulations (In %) (c)	Initial Spares worked out by the Petitioner $d=c*(a-b)/(100-c)$	Excess Initial Spares (e=b-d) if $b>d$
Sub-station (AIS - Brown field)	4276.34	55.01	6.00	269.45	-

34. The Petitioner has submitted the following discharge details of the Initial Spares for the transmission asset:

(₹ in lakh)

Particulars	Initial Spares
Expenditure up to COD	30.34
Expenditure during 2023-24	24.67
<b>Total</b>	<b>55.01</b>



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

**“23. Initial Spares:** Initial spares shall be capitalised as a percentage of the Plant and Machinery cost, subject to 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%

36. We have considered the Petitioner's submissions. The Initial Spares claimed by the Petitioner are within the ceiling of 6%. The expenses incurred on Initial Spares up to the COD have been considered as part of the capital cost as on COD. The liabilities towards balance Initial Spares post-COD are considered part of ACE during the FY 2023-24. The Initial Spares allowed in respect of the transmission asset, as per Regulation 23(d) of the 2019 Tariff Regulations, are as follows:

Elements	Plant and Machinery cost (A)	Initial Spares claimed (B)	Ceiling (In %) (C)	Initial Spares worked out	Excess [B-D] if B>D	Initial Spares allowed
				$D = [(A-B)*C/(100-C)]$		
Sub-station (AIS – Brown Field)	4276.34	55.01	6.00	269.45	0.00	55.01

37. Accordingly, the capital cost as on the COD, considered for tariff computation in respect of the transmission asset, is as follows:



(₹ in lakh)

Capital cost claimed as on COD (Auditor's Certificate) (A)	IDC disallowed due to time over-run not condoned (B)	Undischarged IDC as on COD (C)	IEDC disallowed (D)	Excess Initial Spares disallowed as on COD (E)	Capital cost as on COD (F) = (A-B-C-D-E)
2154.75	12.31	0.00	28.26	0.00	2114.18

### **Additional Capital Expenditure (ACE)**

38. The Petitioner has submitted that the ACE incurred/ projected to be incurred is mainly on account of the balance/ retention payments, and the same is claimed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The ACE claimed by the Petitioner for the transmission asset is as under:

(₹ in lakh)

FR approved cost	Expenditure up to COD	ACE			Estimated completion cost as on 31.3.2027 (Cut-off date)
		2023-24	2024-25	2025-26	
5630.30	2154.75	1562.11	446.31	223.16	4386.33

39. The Petitioner, vide affidavit dated 7.5.2024, has submitted the detailed break-up of the ACE for the transmission asset, which is as under:

Particulars	2023-24
Work deferred for execution under Regulation 24(1)(b) of the 2019 Tariff Regulations	535.59
Discharge of liability under Regulation 24(1)(a) of the 2019 Tariff Regulations	1026.52
Discharge of IDC under Regulation 24(1)(a) of the 2019 Tariff Regulations	12.31
<b>Total</b>	<b>1574.42</b>

40. Regulations 24 and 25 of the 2019 Tariff Regulations provide 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.*

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

(1) *The additional capital expenditure 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;*
- 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 obsolescence of technology; and*
- (d) *The replacement of such asset or equipment has otherwise been allowed by the Commission.”*

41. We have Petitioner's submissions. It is observed that the Petitioner has also submitted the projected ACE for the FY 2024-25 and FY 2025-26, which shall be dealt with as per the relevant Tariff Regulations in future Petition. Further, the Liability Flow Statement up to 31.3.2024, as submitted by the Petitioner in respect of the transmission asset, is as follows:



							(₹ in lakh)
Party Name	Particulars (TL/SS)	Outstanding liability as on COD	Discharge		Unexecuted Work		Outstanding liability as on 31.3.2024 (To be discharged during 2024-29)
			2023-24	Total (2019-24)	2023-24	Total (2019-24)	
M/s Toshiba, M/s BHEL and Misc./ petty contractors	Sub-station Work	1446.54	1012.11	1012.11	535.46	535.46	434.43
	IT Equipment	19.91	14.41	14.41	0.13	0.13	5.50
<b>TOTAL</b>		1466.45	1026.52	1026.52	535.59	535.59	439.93

42. As the Petitioner has claimed the ACE for un-discharged liability as on COD against the unexecuted works for the FY 2023-24. The projected ACE is allowed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations. The Petitioner has also claimed the ACE on account of deferred works of ₹535.59 lakh in the FY 2023-24. The same has been provisionally allowed and the Petitioner is directed to submit the details of the same at the time of truing-up. The details of ACE in respect of the transmission asset are as follows:

		(₹ in lakh)
Particulars		2023-24
ACE		1562.11
Add: IDC Discharged		0.00
<b>ACE allowed in the instant order</b>		<b>1562.11</b>

43. The capital cost considered in respect of the transmission asset for the 2019-24 tariff period is as follows:

				(₹ in lakh)
FR approved cost	Capital cost considered as on approved COD	ACE		Estimated capital cost as on 31.3.2024
		2023-24		
5630.30	2114.18	1562.11		3676.29

### Debt-Equity ratio

44. 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.”*

45. The Petitioner has claimed the debt-equity ratio of 70:30 on the COD and for ACE after the COD. The debt-equity ratio of 70:30 has been considered in accordance with





Regulation 18 of the 2019 Tariff Regulations. The details of the debt-equity ratio as on the COD and as on 31.3.2024 in respect of the transmission asset are as follows:

Funding	Capital cost as on COD (₹ in lakh)	(In %)	ACE during 2019-24 (₹ in lakh)	(In %)	Capital cost as on 31.3.2024 (₹ in lakh)	(In %)
Debt	1479.93	70.00	1093.48	70.00	2573.41	70.00
Equity	634.25	30.00	468.63	30.00	1102.89	30.00
<b>Total</b>	<b>2114.18</b>	<b>100.00</b>	<b>1562.11</b>	<b>100.00</b>	<b>3676.29</b>	<b>100.00</b>

## Depreciation

46. 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 assets of the generating station and transmission system:

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

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

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

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

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

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

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

47. The depreciation has been worked out considering the admitted capital expenditure as on the COD and thereafter up to 31.3.2024. The Weighted Average Rate of Depreciation (WAROD), placed as ‘Annexure’ to this order, has been worked out for the transmission asset as per the rates of depreciation specified in the 2019 Tariff Regulations. The depreciation allowed for the transmission asset is as follows:



(₹ in lakh)

	Particulars	2022-23 (pro-rata for 1 day)	2023-24
A	Opening Gross Block	2114.18	2114.18
B	Addition during the year 2019-24 due to projected ACE	0.00	1562.11
C	Closing Gross Block (A+B)	2114.18	3676.29
D	Average Gross Block (A+C)/2	2114.18	2895.24
E	Average Gross Block (90% depreciable assets)	2110.52	2884.31
F	Average Gross Block (100% depreciable assets)	3.66	10.93
G	Depreciable value (excluding IT equipment and software) (E*90%)	1899.47	2595.88
H	Depreciable value of IT equipment and software (F*100%)	3.66	10.93
I	Total Depreciable Value (G+H)	1903.13	2606.81
J	Weighted average rate of Depreciation (WAROD) (In %)	5.30%	5.32%
K	Lapsed useful life at the beginning of the year (Year)	0.00	0.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00
<b>M</b>	<b>Depreciation during the year (D*J)</b>	<b>0.31</b>	<b>153.93</b>
N	Cumulative Depreciation at the end of the year	0.31	154.24
O	Remaining Aggregate Depreciable Value at the end of the year	1902.82	2452.57

### **Interest on Loan (IoL)**

48. 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 assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

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

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

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

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



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

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

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

49. The Weighted Average Rate of Interest on Loan (WAROI) has been considered based on the rate prevailing as on COD. The Petitioner has prayed that the change in interest rate due to the floating rate of interest applicable, if any, during the 2019-24 tariff period will be adjusted. Accordingly, the floating interest rate, if any, will be considered at the time of truing-up. The IoL is allowed in accordance with Regulation 32 of the 2019 Tariff Regulations for the transmission asset as follows:

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata for 1 day)	2023-24
A	Gross Normative Loan	1479.93	1479.93
B	Cumulative Repayments up to Previous Year	0.00	0.31
C	Net Loan-Opening (A-B)	1479.93	1479.62
D	Additions due to ACE	0.00	1093.48
E	Repayment during the year	0.31	153.93
F	Net Loan-Closing (C+D-E)	1479.62	2419.17
G	Average Loan (C+F)/2	1479.78	1949.40
H	Weighted Average Rate of Interest on Loan (In %)	7.406	7.406
I	<b>Interest on Loan (G*H)</b>	<b>0.30</b>	<b>144.38</b>

### **Return on Equity (RoE)**

50. 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 cutoff 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:

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

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:

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 ₹ 1,000 crore;

(b) Estimated Advance Tax for the year on above is ₹ 240 crore;

(c) Effective Tax Rate for the year 2019-20 = ₹ 240 Crore/₹ 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.”

51. The Petitioner has submitted that the MAT rate applies to it. Accordingly, the MAT rate applicable in the 2019-24 period for the respective financial years has been considered for RoE, which will be trued-up in accordance with Regulation 31(3) of the 2019 Tariff Regulations. The RoE allowed for the transmission asset is as follows:

(₹ in lakh)			
	Particulars	2022-23 (pro-rata for 1 day)	2023-24
A	Opening Equity (A)	634.25	634.25
B	Additions (B)	-	468.63
C	Closing Equity (C) = (A+B)	634.25	1102.89
D	Average Equity (D) = (A+C)/2	634.25	868.57
E	Return on Equity (Base Rate) (In %)	15.500	15.500
F	MAT Rate for respective year (In %)	17.472	17.472
G	Rate of Return on Equity (In %)	18.782	18.782
H	<b>Return on Equity (D*G)</b>	<b>0.33</b>	<b>163.13</b>

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

52. The O&M Expenses claimed by the Petitioner in respect of the transmission asset



for the 2019-24 tariff period are as follows:

(₹ in lakh)

Particulars	2022-23 (pro-rata for 1 day)	2023-24
<b>Sub-station: 400 kV AIS Sub-station</b>		
Number of line bays	1	1
Norms	35.66	36.91
<b>Sub-station: 220 kV AIS Sub-station</b>		
Number of line bays	1	1
Norms	24.96	25.84
<b>Sub Station: 500 kV MVA</b>		
MVA Capacity	500	500
MVA Norm	0.398	0.411
<b>Total O&amp;M Expenses</b>	<b>0.72</b>	<b>268.25</b>

53. Regulation 35(3)(a) of the 2019 Tariff Regulations provides as under:

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

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<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 (₹ Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1666	1725	1785	1848	1913
500 kV Rihand-Dadri HVDC bipole scheme (₹ Lakh) (1500 MW)	2252	2331	2413	2498	2586
±500 kV Talcher- Kolar HVDC bipole scheme (₹ Lakh) (2000 MW)	2468	2555	2645	2738	2834
±500 kV Bhiwadi-Balia HVDC bipole scheme (₹ Lakh) (2500 MW)	1696	1756	1817	1881	1947
±800 kV, Bishwanath-Agra HVDC bipole scheme (₹ Lakh) (3000 MW)	2563	2653	2746	2842	2942

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 (2500 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.”

54. The O&M Expenses have been worked out as per the norms specified in the 2019 Tariff Regulations, and the same are as under:

Particulars	(₹ in lakh)	
	2022-23 (pro-rata for 1 day)	2023-24
400 kV Bays	1	1
Norms as per Regulation 35(3) of the 2019 Tariff Regulations	35.66	36.91
O&M charges claimed	0.10	36.91
<b>O&amp;M Expenses Allowed (A)</b>	<b>0.10</b>	<b>36.91</b>
220 kV Bays	1	1
Norms as per Regulation 35(3) of the 2019 Tariff Regulations	24.96	25.84
O&M charges claimed	0.07	25.84
<b>O&amp;M Expenses Allowed (B)</b>	<b>0.07</b>	<b>25.84</b>
400 kV, 500 MVA ICT	500	500
Norms as per Regulation 35(3) of the 2019 Tariff Regulations	0.398	0.411
O&M charges claimed	0.55	205.50
<b>O&amp;M Expenses Allowed (C)</b>	<b>0.55</b>	<b>205.50</b>
<b>Total O&amp;M Expenses Allowed (A+B+C)</b>	<b>0.71</b>	<b>268.25</b>

### **Interest on Working Capital (IWC)**

55. Regulations 34(1)(c), 34(3), 34(4) and 3(7) of the 2019 Tariff Regulations provide as under:

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

...

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

- i. Receivables equivalent to 45 days of annual fixed cost;
- ii. Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
- iii. Operation and maintenance expenses, including security expenses for one month.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:



Provided that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

(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 1<sup>st</sup> April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

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

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

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

**‘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;”

56. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (RoI) on working capital considered is 10.50% (SBI 1 year MCLR applicable as on 1.4.2022 of 7.00% plus 350 basis points) for the FY 2022-23 and 12.00% (SBI 1 year MCLR applicable as on 1.4.2023 of 8.50% plus 350 basis points) for the FY 2023-24. The components of the working capital and interest allowed thereon for the transmission asset are as follows:

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata for 1 day)	2023-24
A	Working Capital for O&M Expenses (O&M Expenses for one month)	21.64	22.35
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	38.94	40.24
C	Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	75.78	92.00
<b>D</b>	<b>Total Working Capital</b>	<b>136.36</b>	<b>154.59</b>
E	Rate of Interest (In %)	10.50	12.00
<b>F</b>	<b>Interest on Working Capital</b>	<b>0.04</b>	<b>18.55</b>



### **Annual Fixed Charges for the 2019-24 Tariff Period**

57. The transmission charges allowed for the transmission asset for the 2019-24 tariff period are as follows:

(₹ in lakh)			
	Particulars	2022-23 (pro-rata for 1 day)	2023-24
A	Depreciation	0.31	153.93
B	Interest on Loan	0.30	144.38
C	Return on Equity	0.33	163.13
D	O&M Expenses	0.71	268.25
E	Interest on Working Capital	0.04	18.55
<b>F</b>	<b>Total</b>	<b>1.69</b>	<b>748.24</b>

### **Filing Fee and Publication Expenses**

58. The Petitioner has sought reimbursement of its fee for filing the Petition and publication expenses. The Petitioner shall be entitled to reimbursement of the filing fees and publication expenses in connection with the instant Petition directly from the beneficiaries on a pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

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

59. The Petitioner has claimed reimbursement for the license fee and RLDC fees and charges. The Petitioner is allowed to recover the license fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner is also allowed to recover the RLDC fee and charges in terms of Regulation 70(3) of the 2019 Tariff Regulations for the 2019-24 tariff period.

### **Goods and Services Tax**

60. The Petitioner has submitted that the transmission charges claimed herein exclude GST. In case GST is levied in the future, the Respondents will pay it, and the Petitioner will charge and bill it separately. The Petitioner also prayed that additional



taxes, if any, would be paid by the Petitioner on account of the demand from the Government or statutory authorities, and the Commission may allow the same to be recovered from the beneficiaries.

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

### **Security Expenses**

62. The Petitioner has submitted that security expenses related to the transmission asset are not claimed in the instant Petition. It will file a separate Petition to claim the overall security expenses and the consequential IWC as per Regulation 35(3)(c) of the 2019 Tariff Regulations.

63. We have considered the Petitioner's above submissions. The Petitioner has claimed consolidated security expenses for the transmission asset owned by it on a projected basis for the 2019-24 tariff period based on actual security expenses incurred in the FY 2018-19 in Petition No. 260/MP/2020. The Commission vide order dated 3.8.2021 has already disposed of the said Petition. 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**

64. The Petitioner has sought reimbursement of capital spares at the end of the 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**

65. The Petitioner has submitted that the transmission charges in respect of the



transmission asset for the 2019-24 tariff period will be recovered on a monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and will be shared by the beneficiaries as per the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses), Regulations, 2020 (hereinafter referred to as “the 2020 Sharing Regulations”) read with its subsequent amendments.

66. The CTUIL, vide affidavit dated 1.8.2024, has submitted that the 1X500 MVA, 400/220 kV ICT (8th) at Bhadla Pooling Station was agreed to be implemented as a Strengthening Scheme for meeting the n-1 criteria in the 2<sup>nd</sup> Meeting of NRPCTP held on 1.9.2020. Accordingly, the RE generator is associated with the transmission asset. However, the 150 MW LTA granted to M/s Tata Power Renewable Energy Limited is effective with the commissioning of the abovementioned ICT. The 150 MW RE generation is under commercial operation with the commissioning of 75 MW each on 24.6.2021 and 24.8.2021. The relevant extracts of the 2<sup>nd</sup> Meeting of NRPCTP held on 1.9.2020 are as follows:

**“20.0 Additional 1x500 MVA, 400/220 kV ICT (8th) at Bhadla Pooling Station**

20.1 CEA stated that at present, evacuation of 3380MW power from Solar Generation Projects/Solar Parks near Bhadla, 7 nos. of 500 MVA ICTs are being implemented at Bhadla Pooling Station. Subsequently, 150MW LTA to Tata Power has also been granted in 14th Connectivity/LTA meeting of NR held on 17.08.2018. Thus total LTA from Bhadla including evacuation of power from solar generation projects/solar parks along with this LTA shall become 3530 MW against already planned transformation capacity of 3500 MW. Therefore, additional 1x500 MVA ICT is proposed at Bhadla PS.

20.2 CTU stated that as per Transmission Planning Criteria, the "N-1" criteria may not be applied to the immediate connectivity of wind/solar farms with the ISTS/Intra-STS grid i.e. the line connecting the farm to the grid and the step-up transformers at the grid station. Therefore, to evacuate power from solar parks / generators, for which LTA has been granted, it is proposed to augment the transformation capacity of Bhadla Pooling Station by 1x500 MVA ICT. Also, this ICT may be taken up as strengthening scheme and further LTA may not be granted at Bhadla, in order to meet the criteria of n-1 contingency.

20.3 SECI stated that in case one of the transformers goes out, entire generation will face issues. Therefore, n-1 contingency has to be taken care of at RE pooling station. The same needs to be revised in the Transmission Planning Criteria also.

20.4 Director (SO), POSOCO also stated that the existing planning criteria was revised long back in January 2013 and pooling of RE generation to the extent of 3-4 GW at one



*location was not anticipated at that time. Therefore, N-I compliance of 400/220 kV ICTs at RE pooling station (immediate connectivity) is not mandated in the existing Transmission Planning Criteria. Now, with the target of integrating 175 GW RE by 2021-22, the N-I criteria at RE pooling stations needs to be reviewed as, currently, any outage may result in loss of significant generation and can adversely impact the grid security.*

*20.5 MS, NRPC stated that instead of proposing strengthening at one particular S/s, there could be a proposal for augmentation of transformers at all the RE pooling stations in order to meet n-I criteria. In this regard, POSOCO suggested augmentation at the substations with capacity more than 1000 MW.*

*20.6 Chairperson CEA also agreed that the criteria need to be reviewed and stated that the committee constituted for the review of the transmission planning criteria would look into the same.*

*20.7 After deliberations, it was agreed for the implementation of additional 1x500 MVA, 400/220 kV ICT (8th) at Bhadla Pooling Station as strengthening scheme for meeting the n-I criteria.”*

67. We have considered the submissions of the Petitioner and CTUIL. Considering the minutes of the 2<sup>nd</sup> NRPCTP meeting held on 1.9.2020, it is observed that 1x500 MVA, 400/220 kV ICT (8th) at Bhadla Pooling Station is a part of the strengthening scheme.

68. With effect from 1.11.2020 (after the repealing of the 2010 Sharing Regulations), the sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the billing, collection, and disbursement of the transmission charges for the transmission assets shall be recovered in terms of the provisions of the applicable Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

### **Interim Tariff**

69. The Petitioner has prayed to allow an interim tariff, in accordance with Regulation 10(3) of the 2019 Tariff Regulations, to be included in the point-of-connection charges.

70. We have considered the Petitioner's submissions. Since we have determined the transmission tariff in respect of the transmission asset in this order, the prayer for the interim tariff becomes redundant. Therefore, we have not considered it in this order.



71. To summarize, the Annual Fixed Charges (AFC) allowed in respect of the transmission asset for the 2019-24 tariff period are as follows:

(₹ in lakh)	
2022-23 (pro-rata for 1 day)	2023-24
1.69	748.24

72. The Annexure to this order forms part of the order.

73. This order disposes of Petition No. 389/TT/2023 in terms of the above findings and discussions.

**sd/-**  
**(Harish Dudani)**  
**Member**

**sd/-**  
**(Ramesh Babu V.)**  
**Member**

**sd/-**  
**(Jishnu Barua)**  
**Chairperson**



**ANNEXURE****Asset**

(₹ in lakh)

Capex	Admitted capital cost as on COD	Projected ACE					Admitted capital cost as on 31.3.2024	Depreciation Rate (In %)	Annual Depreciation				
		2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station	2110.52	-	-	-	-	1547.57	3658.09	5.28	-	-	-	111.44	152.29
IT Equipment	3.66	-	-	-	-	14.54	18.20	15.00	-	-	-	0.55	1.64
<b>Total</b>	<b>2114.18</b>	-	-	-	-	<b>1562.11</b>	<b>3676.29</b>		-	-	-	<b>111.99</b>	<b>153.93</b>
								<b>Avg. Gross Block</b>	-	-	-	2114.18	2895.24
								<b>WAROD (In %)</b>	0.00	0.00	0.00	<b>5.30</b>	<b>5.32</b>

