

# CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

**Petition No. 359/TT/2023**

**Coram:**

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

**Date of Order: 16.12.2024**

**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 determination of transmission tariff from the COD to 31.3.2024 for a transmission asset under "Northern Region System Strengthening - XL" in Northern Region.

**And in the matter of:**

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

**...Petitioner**

**Versus**

- 1. Ajmer Vidyut Vitran Nigam Limited.,**  
Corporate Office, Vidyut Bhawan,  
Panchsheel Nagar, Makarwali Road,  
Ajmer – 305004.
- 2. Jaipur Vidyut Vitran Nigam Limited.,**  
Vidyut Bhawan, Janpath, Jyoti  
Nagar, Jaipur – 302005.
- 3. Jodhpur Vidyut Vitran Nigam Limited,**  
New Power House, Industrial Area,  
Jodhpur – 342003.
- 4. Himachal Pradesh State Electricity Board Limited.,**  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla – 171004.
- 5. Punjab State Power Corporation Limited,**  
The Mall, PSEB Head Office  
Patiala – 147001.



- 6. Haryana Power Purchase Centre,**  
Shakti Bhawan, Sector-6,  
Panchkula – 134109.
- 7. Jammu Kashmir Power Corporation Limited (JKPCL)**  
220/66/33 Kv Gladni Substation  
SLDC Building  
Narwal, Jammu, J&K.
- 8. Uttar Pradesh Power Corporation Limited.,**  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow – 226001.
- 9. BSES Yamuna Power Limited.,**  
B-Block, Shakti Kiran, Bldg. (Near  
Karkadooma Court)  
Karkadooma 2nd Floor,  
New Delhi – 110092.
- 10. BSES Rajdhani Power Limited,**  
BSES Bhawan, Nehru Place,  
New Delhi – 110019.
- 11. Tata Power Delhi Distribution Limited (TPDDL)**  
NDPL house, Hudson Lines Kingsway Camp  
Delhi – 110009
- 12. Chandigarh Electricity Department**  
Chandigarh Administration,  
Sector -9, Chandigarh
- 13. Uttarakhand Power Corporation Limited.,**  
Urja Bhawan,  
Kanwali Road, Dehradun
- 14. North Central Railway,**  
DRM Office, Nawab Yusuf Road  
Prayagraj, Uttar Pradesh-211011
- 15. New Delhi Municipal Council,**  
Palika Kendra, Sansad Marg,  
New Delhi-110002.

...Respondent(s)

**For Petitioner:** Shri Vivek Kumar Singh, PGCIL  
Shri V. C. Sekhar, PGCIL

**For Respondent:** None



## ORDER

The Petitioner, Power Grid Corporation of India Limited, has filed the instant Petition for the determination of tariff under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) for the period from the COD to 31.3.2024 in respect of a transmission asset, namely, **Asset-I:** 1x80 MVAR, 400 kV Bus Reactor along with its associated GIS bay at Chamera (Chamba) Pooling Station (hereinafter referred to as the “transmission asset”) under the “Northern Region System Strengthening - XL” in the Northern Region (hereinafter referred to as “the transmission project”).

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

- “1) Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this Petition, as per para -8.3 above.*
- 2) Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred/ projected to be incurred.*
- 3) Approve the COD for the subject Asset-I and allow full tariff as claimed under instant Petition.*
- 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 8.3 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 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.*
- 8) 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.*

- 9) *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 transmission project was discussed, deliberated upon, and ratified in the following meetings:

- The 38<sup>th</sup> and 39<sup>th</sup> meetings of NRPC held on 25<sup>th</sup> October, 2016 and 2<sup>nd</sup> May, 2017 respectively.
- The 39<sup>th</sup> and 40<sup>th</sup> SCM (Standing Committee Meeting) of the NR were held on 29-30<sup>th</sup> May 2017 and 22<sup>nd</sup> June 2018, respectively.
- 1<sup>st</sup> NCT (National Committee on Transmission) meeting held on 27.7.2018.
- 2<sup>nd</sup> ECT (Empowered Committee on Transmission) meeting held on 6.8.2018.

b. The Investment Approval (IA) of the transmission project was accorded by the Board of Directors (BoD) of the Petitioner in its 362<sup>nd</sup> meeting held on 16.2.2019 and circulated vide Memorandum No. C/CP/PA1819-12-0AP-IA018 dated 6.3.2019 with an estimated cost of ₹57298 lakh, including an IDC of ₹2828 lakh based on September 2018 price level.

c. The scope of the instant transmission project as per I.A. is as follows:



**Augmentation of Transformers and Bay Extension Works in the Northern Region:**

S. No.	Sub-station Extension	400kV		220kV	
		500 MVA ICT (New)	ICT Bay	ICT Bay	Line Bay
1	400/220kV Roorkee Substation	1	1	1	
2	400/220kV Sonapat Substation	1	1		2
3	400/220kV Abdullapur Substation	-	-	-	2
4	400/220kV Lucknow Substation	1 *	-	-	2
5	400/220kV Gorakhpur Substation**		1		2
6	400/220kV Fatehpur Substation	1	1		2
7	400/220kV Bhadla Substation# 400/220kV Saharanpur Substation#	2	2	2	-
8	400/220kV Saharanpur Substation#	1	1		-

\*Replacement of 1x315 MVA, 400/220kV ICT by 1x500 MVA, 400/ 220kV JCT.  
 "The available 1x315 MVA, 400/220kV ICT. after replacement at Lucknow, was to be shifted to Gorakhpur. 500 MVA ICT, at Bhadla (5th) and Saharanpur, was to be taken up in the next NRPC Meeting.

**Reactive Compensation in the Northern Region:**

Sl. No.	400kV Substation	Capacity (MVAr)	
		400kV Level	220kV Level
1	Jind	-	25
2	Fatehabad	-	25
3	Kishenpur	125	25
4	Jalandhar•	125	2x25
5	Amritsar	-	25
6	Maharanibagh	125	-
7	Mandola	125	25
8	Hissar	125	-
9	Chamera Pooling Station	125	-
10	Moga	125	-
11	Patiala•	125	-
12	Sikar	125	-
13	Allahabad	125	-
14	Meerut	125	-

•Due to space constraints, reactors at Jalandhar and Patiala were to be installed with GIB interconnection and GIS Switch gear



d. The scope of the project covered under various Petitions is as follows:

Name of Assets in Petitions	COD	Remarks
Replacement of 1x315 MVA, 400/220 kV ICT with 1x500 MVA, 400/220 kV ICT at 400 /220KV Lucknow Substation ( <b>Asset-1</b> )	08.03.2019	Falling in the 2014-19 tariff period. Filed vide Petition No. 459/TT/2020.  Transmission tariff approved vide order dated 25.04.2021
500 MVA, 400/220kV, 3Ph, ICT-5 along with associated bays at Bhadla Substation ( <b>Asset-1</b> )	03.01.2021	Filed vide Petition No. 52/TT/2023
500 MVA, 400/220kV, 3Ph, ICT-3 along with associated bays at Saharanpur Substation ( <b>Asset-2</b> )	02.04.2021	
500 MVA, 400/220kV, 3Ph, ICT-4 (named as 5th ICT) along with associated bays at Bhadla Substation( <b>Asset-3</b> )	03.08.2021	
400kV,125 MVAR Bus Reactor-2 along with associated bays at Sikar Substation( <b>Asset-4</b> )	27.08.2021	
400 kV, 125 MVAR, 3 Ph Bus Reactor along with associated bays at Mandola Substation ( <b>Asset-5</b> )	13.11.2021	
500 MVA, 400/220 kV, 3 Ph ICT along with associated 400 kV & 220 kV ICT bays at Sonapat Substation ( <b>Asset-6</b> )	30.11.2021	
220 kV, 25 MVAR, 3 Ph Bus Reactor along with associated bays at Jind Substation( <b>Asset-7</b> )	03.12.2021	
220 kV, 25 MVAR, 3 Ph Bus Reactor along with associated bays at Mandola Substation( <b>Asset-8</b> )	02.12.2021	
400 kV, 125 MVAR, 3 Ph Bus Reactor along with associated bays at Meerut Substation( <b>Asset-9</b> )	13.12.2021	
500 MVA, 400/220 kV, 3 Ph ICT along with associated 400 kV & 220 kV ICT bays at Roorkee Substation ( <b>Asset-10</b> )	22.12.2021	
1 No. 220 kV line bay at Roorkee substation (6 <sup>th</sup> bays) .( <b>Asset-11</b> )	13.02.2022 (invoked)	
2 Nos. 220 kV line bays at Sonapat substation ( <b>Asset-12</b> )	02.04.2022 (invoked)	
400 kV, 125 MVAR, 3 phase Bus Reactor along with associated bay at Maharaniabagh Substation ( <b>Asset-13</b> )	01.10.2022	
400 kV, 125 MVAR, 3 phase Bus Reactor along with associated bay at Hisar Substation ( <b>Asset-14</b> )	29.12.2021	



2 No. 220kV bays at Abdullapur Substation ( <b>Asset-15</b> )	18.03.2021 (invoked)	
01 No. 25 MVAR 220 kV Bus Reactor at Fatehabad Substation ( <b>Asset-16</b> )	19.09.2021	
01 No. 125 MVAR 400 kV Bus Reactor at Kishenpur Substation ( <b>Asset-17</b> )	16.03.2022	
01 No. 25 MVAR 220 kV Bus Reactor at Kishenpur Substation ( <b>Asset-18</b> )	16.03.2022	
02 Nos. 25 MVAR 220 kV Bus Reactor at Jallandhar Substation ( <b>Asset-19</b> )	02.02.2022	
01 No. 125 MVAR 400 kV Bus Reactor at Jallandhar Substation ( <b>Asset-20</b> )	02.12.2021	
01 No. 25 MVAR 220 kV Bus Reactor at Amritsar Substation ( <b>Asset-21</b> )	02.11.2021	
01 No. 125 MVAR 400 kV Bus Reactor at Moga Substation ( <b>Asset-22</b> )	10.09.2021	
01 No. 125 MVAR 400 kV Bus Reactor at Patiala Substation ( <b>Asset-23</b> )	08.10.2021	
02 nos 220kV Line bays at 400/220kV Lucknow Substation ( <b>Asset-24</b> )	20.08.2021 (invoked)	
1X315 MVA 400/220kV ICT-III along with associated bays (315 MVA ICT shifted from Lucknow after replacement of 1X315 MVA 400/220 kV ICT by 1X500 MVA ICT at Lucknow) at 400/220kV Gorakhpur Substation ( <b>Asset-25</b> )	04.08.2020	
02 Nos. 220kV Line bays at 400/220kV Gorakhpur Substation ( <b>Asset-26</b> )	01.04.2021 (invoked)	
1X500 MVA 400/220kV ICT along with associated bays at 765/400/220 kV Fatehpur Substation ( <b>Asset-27</b> )	01.04.2021	
02 nos 220kV Line bays at 765/400/220kV Fatehpur Substation ( <b>Asset-28</b> )	01.04.2021 (invoked)	
1x125 MVAR, 400kV Bus Reactor and associated bay at Allahabad Substation ( <b>Asset-29</b> )	31.08.2021	
<b>Asset-I*: 01x80 MVAR, 400kV Bus Reactor along with its associated GIS bay at Chamera @ (Chamba) Pooling Station</b>	<b>06.02.2023</b>	<b>Covered under the instant Petition.</b>

**Note:** The above table consists of the entire scope of works under the transmission project.

**\*The Asset-I, namely, 01x80 MVAR, 400kV Bus Reactor along with its associated GIS bay at Chamera @ (Chamba) Pooling Station, is the only element, and the Petitioner has claimed transmission tariff under the instant petition.**



**# Chamera pooling station is located near NHPC-Chamera Generation in the Chamba District of the State of Himachal Pradesh. Therefore, the names Chamba and Chamera have been used interchangeably for the same location in various documents.**

- e. The Petitioner has submitted that the scope of Asset-I was modified wherein the Petitioner submitted that as per the original scope (as approved in the NRPC/SCM) of the aforesaid project, the rating of Bus Reactor at Chamera GIS was envisaged as 125 MVAR. However, the same was subsequently revised to 80 MVAR in the 11th Consultation Meeting for Evolving Transmission Schemes (CMETS) owing to issues arising primarily due to transportation-related constraints.
- f. The Petitioner has submitted the details of modification of the scope in the transmission Asset -1 as follows:

<b>Rating of Reactor at Chamera (Chamba) Pooling Station</b>	<b>Remarks</b>
1 X 125 MVAR <i>(as envisaged)</i>	As per Investment Approval and approval in 39 <sup>th</sup> NRPC and 39 <sup>th</sup> SCM of NR dated 2.5.2017 and 30.5.2017
1 X 80 MVAR <i>(subsequent revision/Actual)</i>	As per subsequent 11 <sup>th</sup> CMETS <i>(Consultation Meeting for Evolving Transmission Schemes)</i> of NR dated 30.9.2022

4. The Respondents are Distribution Licensees, Transmission Licensees, Power Utilities, and Power Departments, which are procuring transmission services from the Petitioner, mainly beneficiaries of the Northern Region.

5. The Petitioner has served the Petition on the Respondents and notice regarding filing of this Petition has also been published in newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. None of the Respondents have filed their reply to the Petition.

6. This order is issued considering the submissions made by the Petitioner vide affidavits dated 15.9.2023, 7.5.2024, and 25.7.2024.





7. The final hearing in this matter was held on 20.8.2024, and the order was reserved.
8. Having heard the representatives of the Petitioner and after perusing the material on record, we proceed to dispose of the Petition.

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

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

**Asset-I**

Particulars	(₹ in lakh)	
	2022-23 (pro-rata 54 days)	2023-24
Depreciation	13.79	117.54
Interest on Loan	12.01	100.64
Return on Equity	12.62	110.65
Interest on Working Capital	0.64	5.28
O&M Expenses	3.69	25.84
<b>Total</b>	<b>42.75</b>	<b>359.95</b>

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

**Asset-I**

Particulars	(₹ in lakh)	
	2022-23 (pro-rata 54 days)	2023-24
O&M Expenses	2.08	2.15
Maintenance Spares	3.74	3.88
Receivables	35.63	44.26
Total Working Capital	41.45	50.29
Rate of Interest (in %)	10.50	10.50
<b>Interest on Working Capital</b>	<b>0.64</b>	<b>5.28</b>

**Date of Commercial Operation (“COD”)**

11. The Petitioner has claimed the COD of Asset-I as 6.2.2023.
12. In support of the COD of Asset-I, the Petitioner has submitted the Central Electricity Authority (CEA) Energization Certificate dated 2.2.2023, Northern Regional



Load Despatch Centre (NRLDC) Charging Certificate dated 14.2.2023, self-declaration COD letter dated 13.2.2023 and the CMD's Certificate as required under the Grid Code.

13. Taking into consideration the CEA Energization Certificate dated 2.2.2023, NRLDC Certificate dated 14.2.2023 certifying the successful completion of the trial run on 5.2.2023, the Petitioner's CMD Certificate, the self-declaration COD letter dated 13.2.2023; the COD of Asset-1 is approved as 6.2.2023.

### **Capital Cost**

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

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

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

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) *Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*



- (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project; Expenditure on account of change in law and force majeure events; and*
- (n) *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.”*

15. The Petitioner vide Auditor’s Certificate dated 5.7.2023 has claimed capital cost incurred as on COD and has also projected Additional Capital Expenditure (ACE) to be incurred in respect of the transmission asset as follows:

(₹ in lakh)

Asset	FR Approved Cost	Expenditure up to COD	Projected ACE		Estimated Completion Cost as on 31.3.2024
			2022-23	2023-24	
Asset-I	2160.93	1476.37	88.08	816.35	2380.80

### **Cost overrun**

16. The Petitioner has submitted that the total apportioned approved cost as per IA is ₹2160.93 lakhs, and the estimated completion cost is ₹2380.80 lakhs as on 31.3.2024. The Petitioner further submitted that in comparison to FR-approved cost; there is a cost overrun in the case of instant transmission asset.

17. The Petitioner has submitted that the FR cost was envisaged for 125 MVAR reactors as per the original scope of work of the project, whereas the completion cost is for 80 MVAR reactors, which was finalized after modification in the scope of the project. Thus, a one-to-one comparison of FR cost vs completion cost may not be appropriate in the instant case.

18. The Petitioner has further submitted that the cost variation will be aptly justifiable through comparison of Revised Cost Estimate (RCE) apportionment for the instant transmission asset. The Petitioner, in the Petition, has submitted that the RCE of the transmission project is under preparation and prayed to allow the same to be submitted subsequent to its approval.

19. We have perused the submissions made by the Petitioner. The Petitioner has submitted Form-5 wherein the original estimate, the FR cost of the instant transmission



asset is Rs.2160.93 lakhs including the cost of Rs. 556.58 lakhs for 125 MVAR Bus Reactor. However, the Petitioner has installed 80 MVAR reactors, which have been shifted from Lucknow Substation to Chamera Substation. The 80 MVAR Bus Reactor, which is part of the self-insurance scheme (SIS) and the Petitioner has not claimed the cost of 80 MVAR Bus Reactor, which is part of the self-insurance scheme and claimed the cost of the new 80 MVAR Bus Reactor, which is yet to be procured. Also, the FR cost submitted by the Petitioner is for 125 MVAR Bus Reactor and the RCE is still under approval and yet to be submitted.

20. Therefore, in view of the above discussion, the capital cost of Rs. 2160.93 Lakh equivalence to FR cost against the Asset-1 is provisionally allowed subject to submission of RCE with revised Form-5 based on the cost of 80 MVAR Bus Reactor installed in Chamera Substation. The Petitioner is directed to submit the cost of 80 MVAR Bus Reactor, which was originally procured under the SIS scheme and shifted from Lucknow and installed at Chamera Substation under instant transmission asset, along with supporting documents at the time of truing up. The Petitioner is further directed to claim the following components under the capital cost of the 80 MVAR Bus Reactor at Chamera at the time of truing-up :

- The capital cost of the 80 MVAR Bus Reactor procured under SIS and
- The difference between the cost of the Reactor installed under SIS and the newly procured 80 MVAR Reactor, if any, under ACE. The newly procured Reactor would become a part of SIS.

### **Time overrun**

21. As per Investment Approval dated 16.2.2019, the project was progressively scheduled to be commissioned within 22 months from the date of IA, i.e., 15.12.2020, against which the transmission asset has been put under commercial operation on



6.2.2023. The details of time overrun claimed by the Petitioner is as follows:

<b>Asset</b>	<b>SCOD</b>	<b>COD</b>	<b>Time overrun</b>
Asset-I	15.12.2020	6.2.2023	783 days

22. The Petitioner has submitted that the major reasons for delay in execution of the transmission asset are COVID-19 related lockdown and restrictions and Revision/ Modification in the scope of work owing to transportation constraints.

23. To substantiate its claim regarding time over-run, the Petitioner has submitted the detailed justifications as follows:

**I. Delay due to COVID-19 related lockdown and restrictions**

- a. COVID-19 pandemic was identified by WHO as the global pandemic and a force majeure event across all segments/ verticals of the global business/ industry. This situation by definition(s) was of unforeseen / unplanned nature. As such, the global business and production and execution on ground took a multiple-fold hit.
- b. The projects undertaken by POWERGRID were no exception to the aforesaid situation and faced multiple challenges as they largely navigate through uncharted territory with projects and supply lines experiencing highly unique and mounting risks leading to delay in execution due to the effects of COVID-19 pandemic.
- c. All transport services including road, air and rail were suspended, with exceptions for transportation of essential goods, fire, police and emergency services. The Government (Centre and State) had locked down all the cities and restricted the movement from one place to another. The movement restriction affected the critical supply chain, transportation, worker/ labour absenteeism due to illness/quarantine/ migration etc., which resulted in complete halt of ongoing projects. The lockdown imposition was also unforeseen and unavoidable. The sites were either closed or access was largely restricted as a result of measures to contain the COVID-19 outbreak.



The contractors were not able to carry out the works as a result of action by governments to prevent the spread of the outbreak.

- d. The Petitioner detailed the specific COVID-19-related challenges as under:
- i. Supplier-delivery issues
  - ii. Workers' absenteeism due to illness
  - iii. Delayed issuance of permits
  - iv. Travel restrictions and
  - v. Loss of time or inefficiencies due to the need to practice social distancing on the job site are just a few of the issues that affected the scheduled completion of work.
- e. Due to lack of engineering and technical support the commissioning of various projects including the instant transmission asset faced delays in construction activities.
- f. Apart from the Guidelines issued by GOI, the compliance of various activities such as construction timings, movement of laborer's and machinery, etc., regarding COVID-19 protocol were also issued by the Himachal Pradesh State Disaster Management Authority (HP-SDMA). The list of protocols and guidelines issued by DDMA included 31.3.2020, 14.4.2020, 2.5.2020, 17.5.2020, 8.6.2020, 30.6.2020, 2.7.2020, 31.7.2020, 28.8.2020, 3.4.2021, 20.4.2021, 8.5.2021, 19.5.2021, 5.6.2021 and 22.6.2021, which were to be adhered to by the Petitioner.
- g. The Ministry of Power (MoP), Government of India vide letters dated 27.7.2020 and 12.6.2021 had also provided an extension of 5 months or 150 days and 3 months or 90 days respectively as relief in respect of ongoing inter-state transmission projects owing to unforeseen circumstances forced by the Covid-19 pandemic.
- h. When the construction resumed, additional delays and inefficiencies further pushed back completion dates and the construction could not be started immediately as the supply chain could not be fully restored.
- i. Thus, time period scheduled for execution of above works affected by



COVID-19 restrictions is approx. 5 months in 2020 and 3 months in 2021.

**II. Delay due to Revision/ Modification in Scope of Work owing to transportation constraints**

**Revision in Technical Specification (Rating) of Bus Reactor:**

- a. In the original scope of work, as approved in the NRPC/SCM in respect of the transmission asset, the rating of Bus Reactor at Chamera GIS was envisaged as 125 MVAR. However, the same was revised to 80 MVAR in the 11<sup>th</sup> CMETS owing to transportation related constraints.

**Transportation constraints**

- a. There was adverse impact of COVID-19 pandemic related restrictions on the global manufacturing, assembly and supply chains, and hence there was delay in supply of 125 MVAR Bus Reactor which could be dispatched from its factory location by September, 2021 towards its eventual location at Chamera (Chamba) Pooling Station.
- b. On way to the Chamera Pooling Station, the route (NH-154A) traverses through a few bridges over the river Ravi (and its distributaries) in the mountainous terrain in the State of Himachal Pradesh. On one such bridge, namely, the Shitla Bridge (approx. 30kms from Chamera Pooling Station GIS), there was load restriction on the movement of cargo due to which the 125 MVAR Bus Reactor could not be transported to the site.
- c. When the said 125MVAR Bus Reactor had reached near the Shitla Bridge in November, 2021, the transit contractor requested PWD (NH Division), Government of Himachal Pradesh for requisite permission vide letter dated 8.11.2021. However, the PWD (NH Division) vide their reply dated 30.11.2021 raised concerns about load-bearing capacity of Shitla Bridge for transit of 125MVAR Bus Reactor. PWD informed that the permissible load limit of the Bridge was 140 MT, while weight of Bus Reactor including puller was 161 MT approx. Consequently, the PWD restricted the transit of the





said 125 MVAR Bus Reactor and asked to submit a detailed comprehensive plan for negotiating small bridges and culverts coming in the way, authenticated by a structural consultant along with load testing to be carried out in the presence of PWD officials. This resulted in a halt for a long period despite persuasions and finally, the approval for transport of said Reactor over Shitla Bridge could not be obtained.

- d. In the meanwhile, the matter was taken up for technical re-consideration, wherein, CTUIL requested CEA to share observations on the proposal of POWERGRID for the change in 420 kV Bus Reactor rating from 125 MVAR to 63 MVAR or 41.66 MVAR at Chamera Pooling Station due to transportation constraint. CEA vide letter dated 29.4.22 mentioned that in the Northern Region, especially in Hydro pockets, the voltages remain very high, thus, it was suggested that instead of 125 MVAR Bus Reactor, 3x41.66 MVAR or 2x63 MVAR Bus Reactors may be considered. However, POWERGRID vide e-mails dated 30.4.22 and 10.5.2022 confirmed that space is not available for 3x41.66 MVAR or 2X66 MVAR Bus Reactors at Chamera Pooling Station making the CEA's suggestion non-feasible for execution.
- e. Thereafter, a joint meeting was convened on 20.5.22 among POWERGRID, CTU, and CEA, wherein it was deliberated that installation of 3x41.66 MVAR or 2x63 MVAR Bus Reactors is not feasible due to space constraints at Chamera Pooling Station. Further CEA and CTU stated that as per voltage conditions/profile of the Chamera area, less than 80 MVAR Reactor will not serve the purpose technically. Therefore, POWERGRID was asked to seek the possibility of using 400kV, 80 MVAR Reactor instead of 400 kV 125 MVAR Reactor.
- f. Subsequently, POWERGRID vide mail dated 16.9.2022 informed that in accordance with the discussions held in the aforesaid joint meeting dated 20.5.2022, a request was made to PWD, Government of Himachal Pradesh, to issue NOC for transporting 80 MVAR Bus Reactor weighing approx. 126 MT. On 7.6.2022, the PWD informed that out of a total of 07 bridges along the route to Chamera GIS, 02 bridges were not fit to carry that much load



and requested POWERGRID to carry out the load testing of the said 02 bridges. POWERGRID authorized PWD (NH Division) to carry out the load testing of the 2 bridges and deposited the required amount for testing. The load testing was conducted and after receiving the load test results, the same was submitted to PWD (NH division), Government of Himachal Pradesh. Subsequently, persuasions and advice issued by the NH Department vide letter dated 28.6.2022, a conditional NOC was issued by HP-PWD (NH division) on 12.9.22 for transporting 80 MVAR Bus Reactor having weight of 126 MT (approx.) with certain terms and conditions.

- g. The issue was further deliberated upon in CMETS-NR held on 30.9.2022. POWERGRID mentioned that one 80 MVAR Reactor of lighter weight commensurate to transport mass for Shitla Bridge capacity was available at Lucknow Substation, which will be diverted to Chamera GIS. Accordingly, it was agreed to consider an amendment in 420 kV Bus Reactor rating from 125 MVAR to 80 MVAR at Chamera Pooling Station under the NRSS-XL scheme.
- h. The new Bus Reactor of 80 MVAR was received at Chamera GIS on 28.11.2022 and was commissioned w.e.f. 6.2.2023 after carrying out necessary drawing, foundation, erection, and technical modifications.
- i. The modification of scope/rating in the instant Asset-I is as under:

<b>Rating of Reactor at Chamera (Chamba) Pooling Station</b>	<b>Remarks</b>	
01X125 MVAR (as envisaged)	Approval in 39 <sup>th</sup> NRPC	02.05.2017
	Approval in 39 <sup>th</sup> SCM-NR	30.05.2017
	Investment Approval	16.02.2019
01X80 MVAR (subsequent revision/Actual)	Approval in 11 <sup>th</sup> CMETS-NR	30.09.2022

- j. The transportation constraints led to modification/revision of scope (technical, rating) of the instant asset, which was initially approved in the Investment Approval dated 16.02.2019 (based on deliberations and ratifications in various NRPC/SCM/ECT/NCT) and eventually revised on 30.09.2022 in the 11th CMETS-NR meeting.



- k. Accordingly, the scheduled execution period affected due to the transportation of the Bus Reactor from 16.02.2019 till 30.09.2022 is 1322 days.
- l. The delay was beyond the control of the Petitioner, and even the events associated with the delay were unforeseen. Though the various problems occurring concurrently could have delayed the project enormously the experience and expertise of the Petitioner in project planning and execution curtailed the delay through efficient and relentless efforts.

24. In view of the above, the Petitioner has prayed to condone the delay in execution of the aforesaid transmission asset as the same was beyond the control of the Petitioner.

### **Analysis and Decision**

25. As per Investment Approval dated 16.2.2019, the project was progressively scheduled to be commissioned within 22 months from the date of IA, i.e., 15.12.2020, against which the transmission asset covered in the instant Petition was put under commercial operation on 6.2.2023 with a time delay of 783 days.

26. The main reasons for time overrun submitted by the Petitioner are as follows:

### **COVID-19 related lockdown and restrictions**

27. The Petitioner has submitted that the projects undertaken by them were no exception, facing multiple challenges as they navigate largely through uncharted territory with projects and supply chains experiencing highly unique and mounting risks leading to delays in execution due to the effects of COVID-19. Furthermore, the Petitioner has submitted that all transport services, viz., road, air, and rail, were suspended, with exceptions for transportation of essential goods, fire, police, and emergency services. The movement restriction affected the critical supply chain, transportation, worker/labour absenteeism due to illness/quarantine/migration, etc.,



which resulted in a complete halt of the ongoing projects. The Petitioner has further submitted that the sites were either closed or access was largely restricted as a result of measures to contain the COVID-19 outbreak. Further, the Petitioner has submitted that specific COVID-19-related challenges were supplier-delivery issues, worker absenteeism due to illness, delayed issuance of permits, travel restrictions, and loss of time or inefficiencies due to the need to practice social distancing on the job site are just a few of the issues that had schedule consequences. Furthermore, the Petitioner has submitted that with a lack of engineering and technical support and supply chain disruptions were the major factors impacting project schedule and implementations. The COVID-19 pandemic was also recognized by MoP. The MoP, vide letters dated 27.7.2020 and 12.6.2021 provided an extension of 5 months or 150 days and 3 months or 90 days, respectively, in respect of SCOD due to the nationwide lockdown restrictions for containment of the spread of the COVID-19 pandemic.

28. We have perused the submissions of the Petitioner. We have also gone through the documentary evidence placed on record by the Petitioner in support of the time overrun. Petitioner has submitted that the nationwide lockdown restrictions for containment of the spread of COVID-19 led to disruption in the global supply chain and subsequently affected the project execution. The Petitioner has claimed that the time affected by COVID-19 restrictions is approximately 5 months in 2020 and 3 months in 2021. The Petitioner has relied on the MoP letters dated 27.7.2020 and 12.6.2021, vide which the extension of 5 months and 3 months has been provided as relief for delay in execution of the transmission asset owing to unforeseen circumstances forced by the COVID-19 pandemic.

29. In reference to the above, it is observed that the MoP, vide letters dated 27.7.2020 and 12.6.2021 has extended the SCOD of the inter-state transmission projects by 05 months and 03 months, respectively, due to the COVID-19 pandemic.



We deemed it appropriate that the relevant portion of the letters dated 27.7.2020 and 12.6.2021 be quoted, which is as follows:

***“Dated 27.7.2020***

*“Sub: Extension to TSP/Transmission Licensees for completion of under construction inter-State transmission projects*

*Sir,*

*I am directed to state that transmission utilities have pointed out that construction activities at various transmission project sites have been severely affected by the nationwide lockdown measures announced since 25th march,2020 to contain outbreak of COVID-19 and have requested for extension of Scheduled Commercial Operation (SCOD) to mitigate the issues of disruption in supply chains and manpower, caused due to outbreak of COVID-19 pandemic.*

*2. It has been, therefore, decided that;*

*i. All inter-state transmission projects, which were under construction as on date of lock-down i.e. 25th March 2020, shall get an extension of five months in respect of SCOD.*

*ii. This order shall not apply to those projects, whose SCOD date was prior to 25th March 2020*

*iii. Start date of Long Term Access granted to a generator by CTU based on completion of a transmission line, whose SCOD is extended by 5 months due to COVID-19 as mentioned above at point(i), shall also be extended by 5 months.*

*3. This issue with the approval of Competent Authority.”*

***“Dated 12.6.2021***

*“Sub: Extension to TSP/Transmission Licensees for completion of under construction inter State transmission projects – reg.*

*Sir,*

*I am directed to state that transmission utilities have approached this Ministry stating that construction activity at various transmission projects sites have been severely affected by the current second wave of COVID-19 pandemic and various measures taken by State/UT Governments to contain the pandemic; such as night curfew, imposition of section 144, weekend lockdown and complete lockdown. In this regard they have requested for extension of Scheduled Commercial Operation Date (SCOD) for the undergoing Transmission projects to mitigate the issues of disruption in supply chains and manpower, caused due to COVID-19 pandemic.*

*2. The matter has been examined in the Ministry and it has been noted that unlike last year complete lock-down in the entire country, this time different States/UTs have ordered lock-down in their State/UTs as per their own assessments. Therefore, after due consideration, it has been decided that;*

*i. All inter-state transmission projects, which are under construction with SCOD coming after 01 April 2021 shall get an extension of three (3) months in respect of their SCOD;*

*ii. The commencement date of Long Term Access (LTA) to a generator by CTU based on completion of a transmission line, whose SCOD is extended by three (3) months due to COVID19 as mentioned above at point(i), shall also be extended by three (3) months.*

*3. This issue with the approval of Competent Authority.”*



30. As per IA dated 16.2.2019, the project was scheduled to be commissioned within 22 months from the date of IA, i.e., by 15.12.2020. Also, as per Form-5A, as submitted by the Petitioner, it is observed that the LOA for the substation/tower supply and erection package was awarded to M/S Sterling and Wilson Hyosung on 3.3.2020. Therefore, the SCOD of the transmission asset was not prior to 25.3.2020 and also the transmission asset was under construction on 25.3.2020. The extension of 5 months in the SCOD in terms of the MoP letter dated 27.7.2020 is applicable in the instant case.

31. Further, considering the revised SCOD on 15.5.2021 after 5 months extension in terms of the MoP letter dated 27.7.2020, it is observed that the extension of 3 months in respect of the SCOD in terms of the MoP letter dated 12.6.2021 is also applicable in the instant case as the project came under the category of construction project with SCOD after 1.4.2021.

32. In view of the above reasons, the time overrun due to the COVID-19 pandemic (1<sup>st</sup> and 2<sup>nd</sup> Wave) was beyond the control of the Petitioner, and thus, we hereby condone the delay of 8 months, i.e., 242 days from 15.12.2020 to 14.8.2021 against COVID-19.

**Delay due to Revision/ Modification in Scope owing to transportation constraints  
Revision in Technical Specification (Rating) of Bus Reactor:**

33. The Petitioner has submitted that as per the original scope of work as approved in the NRPC/SCM of the transmission asset rating of the Bus Reactor at Chamera GIS was envisaged as 125 MVAR. However, the same was revised to 80 MVAR in the 11th CMETS owing to issues arising primarily due to transportation-related constraints. The details of transportation constraints as submitted by the Petitioner are as follows:



## **Transportation constraints**

34. The Petitioner has submitted that during the transportation of 125 MVAR Bus Reactor, the PWD (NH Division), Government of Himachal Pradesh put restrictions on the movement of cargo (carrying Bus Reactor) over the Shitla Bridge, which is approx. 30 kms from Chamera Pooling Station (GIS). The Petitioner has submitted that the 125MVAR Bus reactor reached the Shitla Bridge in November 2021, and the transit contractor requested the PWD (NH Division) for requisite permission vide letter dated 8.11.2021. However, the permission was denied by the PWD (NH Division), Government of Himachal Pradesh, vide their letter dated 30.11.2021 due to the load-bearing capacity of the Shitla Bridge.

35. The Petitioner has further submitted that the matter was taken up for technical reconsideration. The CEA, vide letter dated 29.4.2022, suggested that instead of 125 MVAR Bus Reactors, 3x41.66 MVAR or 2x63 MVAR Bus Reactors may be considered. However, POWERGRID vide mails dated 30.4.2022 and 10.5.2022 informed that the suggestion given by the CEA cannot be implemented due to space constraints at the Chamera GIS Pooling Station. Thereafter, a joint meeting was convened on 20.5.2022 among POWERGRID, CTU, and CEA, wherein POWERGRID made deliberations and was asked to explore the possibility of using a 400 kV, 80 MVAR Bus Reactor instead of 400 kV 125 MVAR Bus Reactor. Subsequently, POWERGRID vide mail dated 16.9.2022 informed that in accordance with the discussions held in the joint meeting dated 20.5.2022, a request was made to PWD (NH Division) Government of Himachal Pradesh to issue NOC for transporting 80 MVAR Bus Reactor weighing approx. 126 MT. On 7.6.2022, the PWD (NH Division) Government of Himachal Pradesh informed that out of a total of 07 bridges along the route to Chamera GIS, 02 nos. bridges are not fit to carry that much load and requested POWERGRID to carry out the load testing of 02 nos. bridges. The load testing was conducted, and after receiving the load test



results, the same was submitted to the PWD (NH Division) Government of Himachal Pradesh. Subsequently, a conditional NOC was issued by the PWD (NH Division) Government of Himachal Pradesh on 12.9.2022 for transporting 80 MVAR Bus Reactor having weight of 126 MT (approx.) with certain terms and conditions.

36. Further, the Petitioner has submitted that during the CMETS-NR meeting held on 30.9.2022, the Petitioner apprised that one 80 MVAR Reactor of lighter weight commensurate to transport mass for the Shitla Bridge capacity was available at Lucknow Substation, which will be diverted to Chamera GIS. Accordingly, it was agreed to consider an amendment in the 420 kV Bus Reactor rating from 125 MVAR to 80 MVAR at Chamera Pooling Station under the NRSS-XL scheme. Accordingly, the new Bus Reactor of 80 MVAR was received at Chamera GIS on 28.11.2022 and was commissioned w.e.f. 6.2.2023 after carrying out necessary drawing, foundation, erection, and technical modifications. Thus, the Scheduled execution period affected due to the above from 16.2.2019 till 30.9.2022 is 1322 days.

37. We have considered the submissions of the Petitioner and gone through the available records filed by the Petitioner. It is observed that based on the Petitioner's transportation agency/transit contractor application dated 8.11.2021, the permission for Movement of Modular Hydraulic Trailer Combination Type HT-3 loading arrangement with GCW of 161.40 MT (Including Puller Weight) for transportation of 125 MVAR Reactor was accorded by the Ministry of Road Transport and Highways, Government of India vide letter dated 8.11.2021. Further, as per permission accorded by the Ministry of Road Transport and Highways, Government of India, PWD Department of Himachal Pradesh requested the Petitioner to submit the comprehensive plan for the movement of consignment as the 9 Nos. of bridges became critical as per the terms and conditions of the permission vide letter dated 30.11.2021. Further, due to transportation restrictions, the proposal for installation of 420 kV 63 MAVR in place of 125 MVAR Bus





Reactor was also proposed by the Petitioner to CTUIL vide letter dated 13.4.2022. The CEA vide letter dated 29.4.2022 (based on CTUIL's email dated 27.4.2022) also proposed to consider 3 Single Phase units of 41.66 MVAR each or 2x63 MVAR Bus Reactor instead of 3 Phase, 125 MVAR Reactor due to the fact that the voltage remains very high in Hydro pockets and no reactor will be there at Lahal Pooling Station.

38. Further, it is observed from the Minutes of the Meeting of 11<sup>th</sup> Consultation meeting for the Evolving Transmission Scheme in NR held on 30.9.2022 that the proposal from CEA was not considered due to space constraints for the 2<sup>nd</sup> unit of 63 MVAR Reactor as well as for 3x41.66 MVAR at Chamera Substation. Therefore, after the discussion in a joint meeting held on 25.5.2022 with the Petitioner, CEA, CTUIL, and other stakeholders in the Northern Region, it was decided that the Petitioner may explore the possibility of installing 80 MVAR Reactor. Accordingly, the Petitioner requested the PWD Department of Government of Himachal Pradesh to issue the NOC for the movement of 80 MVAR Reactor from Lucknow or Bhiwadi Substation with a total weight of consignment 126.0 MT vide letter dated 27.5.2022. Further, after conducting load testing of 2 bridges by HPPWD on behalf of the Petitioner, the Conditional and Final NOC had been issued by the HPPWD vide letter dated 7.6.2022 and 12.9.2022, respectively. Accordingly, the 80 MVAR Reactor was shifted from Lucknow on 28.11.2022 and reached at the site on 14.12.2022.

39. It is observed that the amendment in 420 kV Bus Reactor rating from 125 MVAR to 80 MVAR at Chamera Pooling Station under the NRSS-XL scheme was discussed and agreed upon in the 11<sup>th</sup> Consultation meeting for Evolving Transmission Scheme in Northern Region held on 30.9.2022. Accordingly, the aforesaid Reactor was shifted from Lucknow on 28.11.2022 reached Chamera on 14.12.2022, and was commissioned by the Petitioner on 6.2.2023.

40. Further, it is observed that despite the final NOC for transportation of 80 MVAR



Reactor issued by H.P. PWD on 12.9.2022 and subsequent amendment in the scheme in the 11<sup>th</sup> Consultation Meeting for Evolving Transmission Scheme in Northern Region held on 30.9.2022, the transportation of 80 MVAR Bus Reactor started from Lucknow on 28.11.2022 and reached at the site on 14.12.2023. The Petitioner has also not submitted any supporting document to substantiate the time delay in the commencement of transportation from Lucknow after the issuance of NOC from the H.P. PWD Department.

41. Also, it is observed that the Petitioner has applied for CEA Energization approval of installed equipment vide an application dated 11.1.2023, and accordingly, the inspection was done by the concerned authority of CEA on 24.01.2023, and based on the compliance report submitted by the Petitioner, the CEA approval for energization had been issued on 2.2.2023. Therefore, we are of the view that the installation of the instant transmission asset was completed on 11.1.2023 and is ready for commissioning. However, the Petitioner has not submitted any supporting document to substantiate the reasons for the time delay in the commissioning of Asset from 11.1.2023 to 6.2.2023.

42. Therefore, the time delay due to transportation constraints of 125 MVAR Bus Reactor and subsequent time taken in the issuance of NOC by the concerned authorities and approval for amendment in the rating of Bus Reactor from 125 MVAR to 80 MVAR were beyond the control of the Petitioner. However, due to lack of evidence to substantiate the time delay in commencement of transportation from Lucknow after issuance of final NOC and subsequent amendment in NRSS-XL scheme and delay in commissioning (after completion of installation activities on 11.1.2024), we are not inclined to condone the time delay of 85 days (from 30.9.2022 to 28.11.2022 and 11.1.2023 to 6.2.2023) against time delay due to transportation constraints.



43. The summary of the time delay claimed by the Petitioner and time delay condoned/not condoned is as follows:

Asset	Original SCOD	COD	Time overrun	Time overruns condoned	Time overruns not condoned
Asset-I	15.12.2020	6.2.2023	783 Days	698 Days	85 Days

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

44. The Petitioner has claimed IDC of the transmission asset covered in the instant Petition and has submitted the statement showing IDC claim, discharge of IDC liability as on COD and thereafter as follows:

(₹ in lakh)

Asset	IDC, as per the Auditor Certificate	IDC discharged up to COD	IDC discharged during 2022-23	IDC discharged during 2023-24
Asset-I	80.33	76.65	3.68	-

45. As discussed above in this order, we have partially condoned the time overrun in the commissioning of the transmission asset. Therefore, 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. Accordingly, IDC of ₹5.28 lakh has been disallowed on account of time overrun not condoned. Further, the IDC claim on the borrowing from Canara-01 bank, which was drawn after the modified COD, has been disallowed.

46. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged. Accordingly, IDC allowed is as follows:

(₹ in lakh)

Asset	IDC as per Auditor Certificate	IDC disallowed due to time overrun, not condoned/computational difference	IDC allowed	IDC discharged up to COD	IDC discharged during 2022-23	IDC discharged during 2023-24
Asset-I	80.33	5.28	75.05	70.70	4.35	-



47. The Petitioner has claimed IEDC of ₹649.62 lakh in respect of Asset-I and has submitted the Auditor's Certificate in support of the same. The Petitioner has also submitted that the entire IEDC has been discharged as on COD. Since the time overrun is partially condoned, an IEDC of ₹38.05 lakhs has been disallowed on a proportionate basis. The details of the IEDC claimed as per the Auditor's Certificate, IEDC considered and discharged up to the COD is as follows:

(₹ in lakh)			
Asset	IEDC claimed as per Auditor certificate (A)	IEDC disallowed due to time overrun not condoned (B)	IEDC allowed (C)=(A-B)
Asset-I	649.62	38.05	611.57

### Initial Spares

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

(₹ in lakh)					
Asset	Components of the Asset	Plant and Machinery cost for calculation of initial spares	Initial spares claimed		Ceiling limit as per Regulations (%)
			Amount (₹)	Percentage (%)	
Asset-I	Substation*	2195.08	80.00	4.29%	7.00

\*Substation is Chamera 400/220kV: Brownfield (existing) GIS

49. Further, the Petitioner has submitted the year-wise break-up of the Initial Spares being discharged and claimed as ACE as follows:

(₹ in lakh)					
Asset	Particulars	Total Spares claimed	Initial Spares claimed up to COD	Initial Spares claimed as ACE during FY 2023-24	Initial Spares claimed as ACE during FY 2024-25
Asset-I	GIS-Brown Field Substation	80.00	-	40.00	40.00

50. 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%”

51. We have considered the submissions of the Petitioner. Based on the information available on record, the Initial Spares for the transmission asset are allowed as per Regulation 23(d) of the 2019 Tariff Regulations. The Initial Spares allowed for the transmission asset are as follows:

(₹ in lakh)

Asset	Components of the asset	Plant and Machinery cost for calculation of Initial Spares	Initial Spares claimed	Ceiling as per Regulations (in %)	Initial Spares allowable	Excess Initial Spares	Initial Spares allowed
		A	B	C	$D=(A-B)*C/(100\%-C)$	$E=B-D$	
Asset-I	GIS-Brown Field Substation	2195.08	80.00	7.00	159.20	0.00	80.00

52. The capital cost allowed on COD is as follows:

(₹ in lakh)

Asset	Capital cost claimed as on COD (Auditor Certificate) (A)	IDC disallowed due to time over-run not condoned (B)	Undischarged IDC as on COD (C)	IEDC Disallowed (D)	Excess Initial Spares (E)	Capital cost as on COD (F) = (A-B- C-D-E)
Asset-I	1476.37	5.28	4.35	38.05	-	1428.69

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

53. 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.”

54. The Petitioner has claimed that the ACE incurred/projected to be incurred is mainly on account of balance/ retention payments and works deferred for execution. Hence, the same is claimed under Regulation 24(1)(a) and Regulation 24(1)(b) of the 2019 Tariff Regulations. The Petitioner has claimed capital cost as on 31.3.2024 as follows:

Asset	FR Approved Cost	Expenditure up to COD (including undischarged IDC)	Projected ACE		Estimated Completion Cost as on 31.3.2024
			2022-23	2023-24	
Asset-I	2160.93	1476.37	88.08	816.35	2380.80

55. The Petitioner, vide affidavit dated 7.5.2024, has submitted the following details with respect to discharged and deferred payments:

Asset	Party	Particulars	2022-23	2023-24
Asset-I	M/S Sterling and Wilson Pvt. Ltd, M/S BHEL and M/S GE T&D	Substation	80.61 (Undischarged Liabilities)	-
	M/S Sterling and Wilson Pvt. Ltd.	IT Works	7.47 (Undischarged Liabilities)	-



Asset	Party	Particulars	2022-23	2023-24
	M/S Sterling and Wilson Pvt. Ltd and M/S Transformers and Rectifiers	Substation	-	816.35 (Unexecuted Works)
<b>Total</b>			<b>88.08</b>	<b>816.35</b>

56. We have considered the submissions of the Petitioner. The projected ACE is allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations on account of Balance/Retention Payments and under Regulation 24(1)(b) of the 2019 Tariff Regulations on account of works deferred for execution. As discussed above in the order, the ACE during FY 2023-24 is restricted to ₹639.81 Lakh, which is on account of a deduction to restrict the Project Cost as on 31.3.2024 to FR Cost of ₹2160.93 Lakh (Since the RCE is not provided by the Petitioner, the completion cost is restricted to the FR cost, i.e., ₹2160.93 lakh).

57. The details of ACE allowed during the 2019-24 tariff period in respect of the transmission asset is as follows:

Particulars	(₹ in lakh)	
	2022-23 (pro-rata for 54 days)	2023-24
ACE	88.08	639.81
Add: IDC Discharged	4.35	0.00
ACE allowed in the instant order	<b>92.43</b>	<b>639.81</b>

58. The capital cost considered for the transmission asset for the 2019-24 tariff period is as follows:

Asset	Capital Cost as on COD	ACE		Capital Cost as on 31.3.2024
		2022-23	2023-24	
Asset-I	1428.69	92.43	639.81	2160.93

### **Debt-Equity ratio**

59. 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.”

60. The Petitioner has claimed the debt-equity ratio of 70:30 in respect of the





transmission asset, and the same has been considered by the Commission in accordance with Regulation 18(1) of the 2019 Tariff Regulations, which is as follows:

### Asset-I

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	1,000.08	70.00	512.58	70.00	1,512.65	70.00
Equity	428.61	30.00	219.68	30.00	648.28	30.00
<b>Total</b>	<b>1,428.69</b>	<b>100.00</b>	<b>732.25</b>	<b>100.00</b>	<b>2,160.93</b>	<b>100.00</b>

### Depreciation

61. 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.”

62. We have considered the submissions of the Petitioner. The depreciation has



been worked out considering the admitted capital expenditure as on COD and thereafter up to 31.3.2024. The weighted average rate of depreciation (WAROD) has been worked out and placed as an Annexure for Asset-I as per the rates of depreciation specified in the 2019 Tariff Regulations. Depreciation allowed in respect of the transmission asset for the 2019- 24 tariff period is as follows:

#### Asset-I

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata 54 days)	2023-24
A	Opening Gross Block	1428.69	1521.12
B	Addition during the year 2019-24 due to ACE	92.43	639.81
C	Closing Gross Block (A+B)	1521.12	2160.93
D	Average Gross Block (A+C)/2	1474.90	1841.02
E	Average Gross Block (90% depreciable assets)	1344.99	1707.19
F	Average Gross Block (100% depreciable assets)	129.91	133.84
G	Depreciable value (excluding IT equipment and software) (E*90%)	1210.49	1536.47
H	Depreciable value of IT equipment and software (F*100%)	129.91	133.84
I	Total Depreciable Value (G+H)	1340.40	1670.30
J	Weighted average rate of Depreciation (WAROD) (in %)	6.14	5.99
K	Lapsed useful life at the beginning of the year	-	-
L	Balance useful life at the beginning of the year	23	23
M	<b>Depreciation during the year (D*J)</b>	<b>13.39</b>	<b>110.21</b>
N	Cumulative Depreciation at the end of the year (M+N)	13.39	123.60
O	Remaining Aggregate Depreciable Value at the end of the year (I-N)	1327.01	1546.70

#### Interest on Loan (IoL)

63. 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.”

64. The Weighted Average Rate of Interest on Loan (WAROI) has been considered on the basis of 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 rate of interest, if any, will be considered at the time of true-up. Therefore, the IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations for the transmission asset, which is as follows:

#### **Asset-I**

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata 54 days)	2023-24
A	Gross Normative Loan	1000.08	1064.78
B	Cumulative Repayments up to Previous Year	0.00	13.39
C	Net Loan-Opening (A-B)	1000.08	1051.39
D	Additions due to ACE	64.70	447.87
E	Repayment during the year	13.39	110.21
F	Net Loan-Closing (C+D-E)	1051.39	1389.05
G	Average Loan (C+F)/2	1025.74	1220.22
H	Weighted Average Rate of Interest on Loan (in %)	7.670	7.678
I	<b>Interest on Loan (G * H)</b>	<b>11.64</b>	<b>93.69</b>



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

65. 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:

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

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

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is ₹ 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.”

66. The Petitioner has submitted that the MAT rate is applicable to the Petitioner's company. Accordingly, the MAT rate applicable during the 2019-24 tariff period for respective financial years has been considered for the purpose of RoE, which will be trued-up in accordance with Regulation 31(3) of the 2019 Tariff



Regulations. The RoE allowed with respect to the transmission asset for the 2019-24 tariff period is as follows:

### Asset-I

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata 54 days)	2023-24
A	Opening Equity (A)	428.61	456.33
B	Additions (B)	27.73	191.95
C	Closing Equity (C) = (A+B)	456.33	648.28
D	Average Equity (D) = (A+C)/2	442.47	552.31
E	Return on Equity (Base Rate) (in %)	15.500%	15.500%
F	MAT Rate for respective year (in %)	17.47%	17.47%
G	Rate of Return on Equity (in %)	18.782%	18.782%
H	<b>Return on Equity (D * G)</b>	<b>12.29</b>	<b>103.73</b>

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

67. The O&M Expenses claimed by the Petitioner for the transmission asset for the 2019-24 tariff period are as follows:

#### **Asset I:**

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata 54 days)	2023-24
<b>1 x 80 MVAR, 400 kV Bus Reactor along with its associated GIS bay at Chamera (Chamba) Pooling Station</b>			
	Number of Line bays	1	1
	Norms*	24.96*	25.84*
	<b>Total O&amp;M Expenses</b>	<b>3.69</b>	<b>25.84</b>

*\*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*

68. 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 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  $\pm 500$  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  $\pm 500$  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.”

69. We have considered the submissions of the Petitioner. The O&M Expenses subject to truing up have been worked out as per the norms in the 2019 Tariff Regulations, which are as follows:

**Asset I:**

Particulars	(₹ in lakh)	
	2022-23 (pro-rata 54 days)	2023-24
<b>1 x 80 MVAR, 400 kV Bus Reactor along with its associated GIS bay at Chamera (Chamba) Pooling Station</b>		
Number of Line bays	1	1
Norms*	24.96*	25.84*
<b>Total O&amp;M Expenses</b>	<b>3.69</b>	<b>25.84</b>

\*The O&M expenses for the GIS bays is allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays



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

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

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

(a) **For Coal-based/lignite-fired thermal generating stations:**

- (i) *Cost of coal or lignite and limestone towards stock, if applicable, for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
- (ii) *Advance payment for 30 days towards cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;*
- (iii) *Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
- (iv) *Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;*
- (v) *Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and*
- (vi) *Operation and maintenance expenses, including water charges and security expenses, for one month.*

(aa) **For emission control system of coal or lignite based thermal generating stations:**

- (i) *Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;*
- (ii) *Advance payment for 30 days towards cost of reagent for generation corresponding to the normative annual plant availability factor;*
- (iii) *Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for sale of electricity calculated on the normative annual plant availability factor;*
- (iv) *Operation and maintenance expenses in respect of emission control system for one month;*
- (v) *Maintenance spares @20% of operation and maintenance expenses in respect of emission control system.*

(b) **For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:**

- (i) *Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
- (ii) *Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;*
- (iii) *Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;*
- (iv) *Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid*



fuel; and

(v) Operation and maintenance expenses, including water charges and security expenses, for one month.

(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;”

71. The Petitioner has submitted that it has computed IWC for the 2019-24 tariff period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 10.50%.

72. The IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (ROI) considered is 10.50% (SBI 1 year MCLR



applicable as on 1.4.2022 of 7.00% plus 350 basis points) for 2022-23 and 12.00% (SBI 1 year MCLR applicable as on 1.4.2022 of 8.50% plus 350 basis points) for 2023-24.

73. The components of the working capital and interest thereon allowed are as follows:

**Asset-I**

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata 54 days)	2023-24
A	Working Capital for O&M Expenses (O&M Expenses for 1 month)	2.08	2.15
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	3.74	3.88
C	Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	34.72	41.70
<b>D</b>	<b>Total Working Capital (A+B+C)</b>	<b>40.54</b>	<b>47.73</b>
E	Rate of Interest (in %)	10.50	12.00
<b>F</b>	<b>Interest on Working Capital (D * E)</b>	<b>0.63</b>	<b>5.73</b>

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

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

**Asset-I**

		(₹ in lakh)	
	Particulars	2022-23 (pro-rata 54 days)	2023-24
A	Depreciation	13.39	110.21
B	Interest on Loan	11.64	93.69
C	Return on Equity	12.29	103.73
D	Interest on Working Capital	0.63	5.73
E	O & M Expenses	3.69	25.84
<b>F</b>	<b>Total</b>	<b>41.64</b>	<b>339.20</b>

**Filing Fee and the Publication Expenses**

75. The Petitioner has sought reimbursement of the fee paid by it 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 present Petition directly from the beneficiaries on a pro-rata basis in accordance with Regulation 70(1) of the



2019 Tariff Regulations.

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

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

### **Goods and Services Tax**

77. The Petitioner has submitted that if GST is levied at any rate and at any point of time in the 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, and the same may be allowed to be recovered from the beneficiaries.

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

### **Security Expenses**

79. The Petitioner has submitted that security expenses related to transmission assets are not claimed in the instant Petition and that it would claim them separately.

80. We have considered the Petitioner's submissions. The Petitioner has claimed consolidated security expenses on a projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in the financial year 2018-19 in Petition No. 260/MP/2020. The Commission, vide its order dated 3.8.2021 in Petition No.



260/MP/2020, has approved security expenses from 1.4.2019 to 31.3.2024. Therefore, the Petitioner's prayer in the instant Petition for allowing it to file a separate Petition for claiming the overall security expenses has become infructuous.

### **Sharing of Transmission Charges**

81. The Petitioner has submitted that the tariff of the transmission asset will be recovered monthly in accordance with Regulation 57 of the 2019 Tariff Regulations and shared by the beneficiaries as per the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 ("the 2020 Sharing Regulations"). We have considered the Petitioner's submission.

82. As discussed above in this order, the COD of Asset-I has been approved as 6.2.2023. Accordingly, the billing, collection, and disbursement of the transmission charges shall be recovered in terms of Regulation 57 of the 2019 Tariff Regulations and shall be shared by the beneficiaries and long-term transmission customers in the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 as amended from time to time.

### **Interim Tariff**

83. The Petitioner has prayed to allow the interim tariff in accordance with Regulation 10(3) of the 2019 Tariff Regulations for inclusion in the point of connection charges.

84. 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.

85. To summarize:

- a. AFC allowed in respect of the transmission asset for the 2019-24 tariff period are as follows:



(₹ in lakh)

Particulars	2022-23	2023-24
Asset-I	41.64	339.20

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

87. This order disposes of Petition No. 359/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-I**

Capex	Admitted Capital Cost as on COD	Projected ACE					Admitted Capital Cost as on 31-03-2024	Dep Rate	Annual Depreciation				
		2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24
Building	-	-	-	-	-	-	-	3.34%	-	-	-	-	-
Transmission Line	-	-	-	-	-	-	-	5.28%	-	-	-	-	-
Substation	1,302.70	-	-	-	84.58	639.81	2,027.09	5.28%	-	-	-	71.02	90.14
PLCC	-	-	-	-	-	-	-	6.33%	-	-	-	-	-
IT Equipment	125.99	-	-	-	7.85	-	133.84	15.00%	-	-	-	19.49	20.08
<b>Total</b>	<b>1,428.69</b>	-	-	-	<b>92.43</b>	<b>639.81</b>	<b>2,160.93</b>		-	-	-	<b>90.50</b>	<b>110.21</b>
								<b>Avg. Gross Block</b>	-	-	-	<b>1,474.90</b>	<b>1,841.02</b>
								<b>WAROD</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>6.14%</b>	<b>5.99%</b>

