

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION,
NEW DELHI**

Petition No. ____ /TT/ ____

IN THE MATTER OF:

Petition for determination of tariff under Section 62 read with Section 79 (1) (d) of the Electricity Act, 2003 and under the Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 read with Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2024 for the Asset: 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays under "Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS".

Power Grid Corporation of India Ltd

---PETITIONER

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.

Corporate Centre: 'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

Uttar Pradesh Power Corporation Ltd.

---RESPONDENT(S)

Shakti Bhawan, 14, Ashok Marg
Lucknow - 226 001

Represented by its Chairman

And others

Place: Gurugram

Date:13.05.2025

Petitioner


(V.C. Sekhar)

Sr. General Manager (Regulatory Cell)



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FILED BY
POWER GRID CORPORATION OF INDIA LTD.

Place: Gurugram

REPRESENTED BY

DATED:13.05.2025


(V. C. Sekhar)
Sr. General Manager (Regulatory Cell)



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Shakti Bhawan, 14, Ashok Marg
Lucknow - 226 001

Represented by Its Chairman

and Others

To
The Secretary
Central Electricity Regulatory Commission
New Delhi 110001

Sir,



The present tariff Petition is filed under Section 62 read with Section 79 (1) (d) of the

Electricity Act 2003, Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2024 for determination of Transmission tariff of asset: 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays under **“Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS”** from Actual DOCO to 31.03.2029 and same may please be registered and taken on record by the Hon'ble Commission.

Place: Gurugram
DATED:13.05.2025

FILED BY
POWER GRID CORPORATION OF INDIA LTD.
REPRESENTED BY


(V. C. Sekhar)
Sr. General Manager (Regulatory Cell)



BEFORE

THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION, NEW DELHI

Petition No. ____ /TT/ ____

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Uttar Pradesh Power Corporation Ltd.

---RESPONDENT(S)

Shakti Bhawan, 14, Ashok Marg, Lucknow - 226001

Represented by Its Chairman

And Others

MEMO OF PARTIES

Power Grid Corporation of India Ltd.

---PETITIONER

Registered office: B-9, Qutab Institutional Area,

Katwaria Sarai, New Delhi. 110 016.

Corporate Centre: 'SAUDAMINI', Plot No-2,

Sector-29, Gurgaon-122 001 (Haryana).

VERSUS

1. UTTAR PRADESH POWER CORPORATION LTD.

SHAKTI BHAWAN, 14, ASHOK MARG

LUCKNOW - 226 001

REPRESENTED BY ITS CHAIRMAN

---RESPONDENT(S)



2. AJMER VIDYUT VITRAN NIGAM LTD
CORPORATE OFFICE, VIDYUT BHAWAN,
PANCHSHEEL NAGAR, MAKARWALI ROAD
AJMER-305004 (RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR
3. JAIPUR VIDYUT VITRAN NIGAM LTD
132 KV, GSS RVPNL SUB- STATION BUILDING,
CALIGIRI ROAD, MALVIYA NAGAR,
JAIPUR-302017 (RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR
4. JODHPUR VIDYUT VITRAN NIGAM LTD
NEW POWERHOUSE, INDUSTRIAL AREA,
JODHPUR – 342 003 (RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR
5. HIMACHAL PRADESH STATE ELECTRICITY BOARD LTD
VIDYUT BHAWAN, KUMAR HOUSE COMPLEX
BUILDING II, SHIMLA-171 004
REPRESENTED BY ITS CHAIRMAN
6. HARYANA POWER PURCHASE CENTRE
SHAKTI BHAWAN, SECTOR-6
PANCHKULA (HARYANA) 134 109
REPRESENTED BY ITS S.E. / C & R-1
7. JAMMU KASHMIR POWER CORPORATION LIMITED
220/66/33 KV GLADNI SS SLDC BULIDING,
NARWAL, JAMMU
REPRESENTED BY ITS CHAIRMAN
8. BSES YAMUNA POWER Ltd,
B-BLOCK, SHAKTI KIRAN, BLDG.
KARKADOOMA 2ND FLOOR, NEW DELHI-110092
REPRESENTED BY ITS CEO
9. BSES RAJDHANI POWER Ltd,
BSES BHAWAN, NEHRU PLACE, NEW DELHI
REPRESENTED BY ITS CEO
10. TATA POWER DELHI DISTRIBUTION LTD.
33 KV SUBSTATION, BUILDING, HUDSON LANE,
KINGSWAY CAMP, NORTH DELHI - 110009
REPRESENTED BY ITS CEO



11. CHANDIGARH ELECTRICITY DEPARTMENT
UT-CHANDIGARH, DIV-11, OPPOSITE, TRANSPORT NAGAR,
INDUSTRIAL AREA PHASE - I, CHANDIGARH
REPRESENTED BY ITS CHIEF ENGINEER
12. UTTARAKHAND POWER CORPORATION LTD.
URJA BHAWAN, KANWALI ROAD, DEHRADUN.
REPRESENTED BY ITS MANAGING DIRECTOR
13. NORTH CENTRAL RAILWAY
ALLAHABAD.
REPRESENTED BY CE DISTRIBUTION ENGINEER
14. NEW DELHI MUNICIPAL COUNCIL
PALIKA KENDRA, SANSAD MARG,
NEW DELHI-110002
REPRESENTED BY CHAIRMAN
15. PUNJAB STATE POWER CORPORATION LIMITED
THE MALL, PSEB HEAD OFFICE, PATIALA - 147 001
REPRESENTED BY ITS CMD
16. CENTRAL TRANSMISSION UTILITY OF INDIA LTD
(CTUIL) FLOORS NO. 5-10, TOWER 1, PLOT NO. 16,
IRCON INTERNATIONAL TOWER,
INSTITUTIONAL AREA, SECTOR 32,
GURUGRAM, HARYANA - 122001
REPRESENTED BY ITS CEO

POWER GRID CORPORATION OF INDIA LTD.

GURGAON

REPRESENTED BY

DATED:13.05.2025



(V. C. Sekhar)

Sr. General Manager (Regulatory Cell)



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---PETITIONER

Uttar Pradesh Power Corporation Ltd.

Shakti Bhawan, 14, Ashok Marg

Lucknow - 226 001

Represented by Its Chairman

And others

---RESPONDENTS

MEMO OF APPEARANCE

POWER GRID CORPORATION OF INDIA LTD.

-- PETITIONER

1. Shri Dilip Nagesh Rozekar, ED (Commercial & RC), POWERGRID
2. Shri Mohd. Mohsin, Chief GM (Comml- Petition), POWERGRID
3. **Shri V.C. Sekhar, Sr. GM (Commercial-RC), POWERGRID**
4. Shri Zafrul Hasan, GM (Commercial-RC), POWERGRID
5. Shri Angaru Naresh Kumar, DGM, POWERGRID
6. Smt Suchitra Gautam, DGM, POWERGRID
7. Shri Vishal Sagar, DGM, POWERGRID
8. Shri G. Vijay, DGM, POWERGRID



9. Shri Vivek Kumar Singh, DGM, POWERGRID
10. Shri Amit Kumar Chachan, DGM, POWERGRID
11. Smt. Supriya Singh, CM (Law), POWERGRID
12. Shri Arjun Malhotra, Manager (Law), POWERGRID
13. Smt. Tanushree Rao, DM (Law), POWERGRID

I, V.C. Sekhar, the Petitioner above named do hereby nominate to act, plead and appear on my behalf in the aforesaid matter.

IN WITNESS WHEREOF I have set and subscribed my hands to this writing on this 13th day of **May 2025**.

GURGAON

DATED:13.05.2025

POWER GRID CORPORATION OF INDIA LTD.

REPRESENTED BY

(V.C. Sekhar)

Sr. General Manager (Regulatory Cell)



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---PETITIONER

Uttar Pradesh Power Corporation Ltd.
Shakti Bhawan, 14, Ashok Marg
Lucknow - 226 001

---RESPONDENT(S)

Represented by Its Chairman
And Others

Executive Summary of the Petition:

1. Brief Background of the Petitioner

The Petitioner herein, Power Grid Corporation of India Ltd. (hereinafter referred to as **"POWERGRID/Petitioner"**) is a Government Company within the meaning of the Companies Act, 2013. POWERGRID is deemed transmission licensee in terms of Section 14 of the Electricity Act, 2003. POWERGRID by virtue of a transmission licensee is required to inter-alia Build, Own, Operate and Maintain an efficient,



coordinated and economical interstate transmission system (“ISTS”). POWERGRID operates and functions within the regulatory control of this Hon’ble Central Electricity Regulatory Commission (hereinafter referred to as “Hon’ble Commission”). Tariff for the transmission system established by POWERGRID is required to be determined by this Hon’ble Commission in accordance with the Tariff Regulations as notified by this Hon’ble Commission from time to time in exercise of its powers under Section 178 of the Electricity Act, 2003.

2. Brief background of the Respondent(s):

POWERGRID has impleaded distribution licensees and Government departments of the respective states which are engaged in distribution of electricity in Northern Region of India. The respondents are also ‘Designated Inter State Transmission Customers’ (hereinafter referred to as ‘DICs’) from Northern Region in terms of the 2020 Sharing Regulations. In Addition, the Petitioner has also impleaded Central Transmission Utility of India Limited as Respondent No 16.

3. Background of Transmission Assets:

POWERGRID is filing the present petition for determination of tariff for the following assets which have been implemented under the scheme “**Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS**” as per details provided below:

Asset No	Asset Name	DOCO
Asset-1	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays	14.02.2025

Brief description of important events relevant to the Petition:

S. No	Event	Date
1.	Transmission scheme was deliberated and approved in the 8 th CMETS in Northern Region	30.06.2022
2.	Transmission scheme was also discussed and approved in the 56 th meeting of NRPC	29.07.2022



S. No	Event	Date
3.	CTUIL, vide its OM conveyed the approval for implementation of the subject ISTS Transmission Scheme under RTM mode by POWERGRID (implementing agency)	14.10.2022
4.	Investment Approval	23.01.2023
5.	SCOD	Asset-1: 13.04.2024
6.	COD	Asset-1: 14.02.2025

4. Summary of Claims:

POWERGRID is seeking determination of tariff for aforesaid transmission asset on estimated capital cost comprising of capital cost incurred upto Commercial Operation Date (“COD”) and projected additional capital expenditure in accordance with provision of Regulation 24 & 25 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 (“Tariff Regulations, 2024”).

5. The details of FR approved cost vis-à-vis claimed capital cost as on COD and projected additional capital expenditure is as under:

Table No-1

₹ in Lakhs

Asset No	Approved Cost (FR)	Expenditure Up to DOCO	Projected Expenditure for FY				Estimated Completion Cost
			2024-25	2025-26	2026-27	2027-28	
Asset-1	5641.00	3638.18	0.30	1047.08	174.51	174.51	5034.58

6. **Details of Cost Overrun:** There is no cost overrun with respect to FR apportioned approved cost.

7. **Details of Time- Overrun:** There is a time overrun of 307 days in commissioning of Asset-1.

8. Details of tariff claimed are as under:

₹ in Lakhs

Sl. No.	Name of the Asset	2024-25	2025-26	2026-27	2027-28	2028-29
1	Asset-1	94.60	834.54	924.07	945.30	953.79

9. It is prayed to Hon'ble Commission to reimburse expenditure of petition filing fee, license fee, newspaper publication expenses and RLDC fee & charges etc.



Detailed Petition:

MOST RESPECTFULLY SHOWETH:

10. The Petitioner herein, Power Grid Corporation of India Ltd/ POWERGRID is a Government Company within the meaning of the Companies Act, 1956. POWERGRID is a deemed transmission licensee under Section 14 of the Electricity Act 2003.
11. POWERGRID being transmission licensee is required to inter-alia Build, Own, Operate and Maintain an efficient, coordinated and economical inter-State transmission system (ISTS). The tariff for the said transmission systems shall be determined by the Hon'ble Commission in accordance with the Tariff Regulations, 2024.

Approval of the Scheme

12. That the petitioner has been entrusted with the implementation of the scheme **"Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS"** The investment approval of the project was accorded by Competent Authority of the petitioner and same was communicated vide Memorandum: C/CP/PA2223-10-0AL-IA021 dated: 23.01.2023 with an estimated cost of ₹56.41 Crore including IDC of ₹2.13 Crore at September 2022 price level; a copy whereof is attached hereto as **Encl.-1.**
13. That the scope of the scheme was discussed and agreed in the 8th Consultation meeting for Evolving Transmission Schemes in NR held on 30.06.2022 and 56th meeting of Northern Regional Power Committee held on 29.07.2022. Subsequently, CTUIL, vide its OM dated 14.10.2022 has awarded the subject scheme to POWERGRID for implementation under Regulated Tariff Mechanism. Extracts of the CMETS, RPC and CTUIL OM are enclosed herewith as **Encl.-2.**

SCOPE OF WORK:

14. The scope of work covered under the project **"Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS"** are as follows:



Extension of 400/220 kV at Fatehgarh-II PS

Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS (under Bus Section-1) along with its associated bays

400kV

400/220 kV, 500 MVA ICT (6th) – 1 no.

400 kV ICT bay – 1 no.

220kV

220 kV ICT bay – 1 no.

(with cable/GIS duct connection)

The SLD, PERT and DPR of the scheme is attached hereto as **Encl.– 3**.

15. It is submitted that as per the Regulation 9 (1) of the CERC (Terms and Conditions of Tariff) Regulations, 2024, the following condition has to be fulfilled while filing the Tariff petition for 2024-29 tariff block: -

Quote

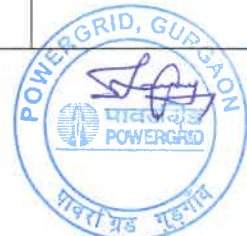
"Provided that where the transmission system comprises various elements, the transmission licensee shall file an application for determination of tariff for a group of elements on incurring of expenditure of not less than 100 Crore or 70% of the cost envisaged in the Investment Approval, whichever is lower, as on the date of commercial operation"

Unquote

The entire scope of the project has been completed and covered under instant petition. Accordingly, the instant petition is being filed in compliance with Regulation 9 (1) of CERC Regulations, 2024.

16. That the present petition covers approval of transmission tariff for following Asset:

Sl. No	Asset Name	Actual DOCO
Asset-1	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays	14.02.2025



DOCO letter, CEA certificate, RLDC Certificate and CMD Certificate for Asset-1 are attached hereto as **Encl. – 4.**

17. Implementation Schedule

- a. As per the CTUIL office memorandum dated:14.10.2022, the implementation time for the Asset: 500 MVA, 400/220kV ICT (6th) along with associated Bays at Fatehgarh-II PS S/s was 18 months from the date of issue of OM i.e. by 13.04.2024. Further, the commissioning schedule considered in Investment approval was also 13.04.2024 for said Asset. However, the Asset-1 is put under commercial operation w.e.f 14.02.2025. There is a time overrun of around 307 days in commissioning of Asset-1 from SCOD which was mainly due to delay in obtaining requisite shutdown for commissioning of the asset as explained below:

a. Delay in requisite Shutdown Approval(s):

The instant asset had to be commissioned in the existing 400/220kV Fatehgarh-II PS. Therefore, it was a necessity to have continuous shutdowns for Erection, Stringing, Jumpering of the bus/bays, termination and pre-commissioning works etc. For smooth execution of work (erection works) associated with instant asset, continuous shutdown of around 3-5 months is required during the daytime for erection of equipment, connection of jumpering with existing bus, testing and commissioning etc.

The requisite shutdown required to execute the following work in existing substation were as follows:

Sl. No	Particulars	No of days required to execute the work
1	Erection of Tower structure in existing switchyard	41 days
2	Erection of bay equipment along with structures i.e. CB, CT, LA, CVT etc	46 days
3	Stringing and jumpering	20 days
4	Switchyard equipment testing	29 days
5	Final testing and commissioning	21 days
	Total	157 days (1256 working hrs)

The request for approval of shutdown(s) during the daytime were made to NRLDC. However, the NRLDC and OCC committees approved intermittent shutdowns and that



too only after off-peak time of Solar generation i.e. after 17:00 Hrs or 19:00 hrs and not on continuous basis. It is submitted that, with site works picking up at desired pace, shutdown was applied to carry out the necessary works like erection, stringing, installation, termination, testing & commissioning etc.

The request for approval for shutdown(s) of existing substation elements were made in the following OCC meetings:

Sl. No	OCC meeting	Date	Remarks
1	223 rd meeting	OCC 12.09.2024	Shutdown required under construction head of 400/220kV ICT-1 & ICT-2 at Fatehgarh-II PS for bay extension work. Shutdown approved, with remarks (May be given from 1700hrs to 2400 hrs). Approved S/d for 400/220kV ICT-1 & ICT-2 at Fatehgarh-II PS from 01.10.2024 to 07.10.2024 (08 nos days) Shutdown required under construction head of 220kV Transmission lines at Fatehgarh-II PS for bay extension work. Shutdown approved, with remarks (May be given from 1900hrs to 2400 hrs). Approved S/d for 220kV Transmission lines at Fatehgarh-II PS from 01.10.2024 to 07.10.2024 (08 nos days)
2	224 th meeting	OCC 16.01.2025	Shutdown required under construction head of 400kV Bus 1 & 2 for bay extension. Shutdown approved, with remarks (May be given from 1700hrs to 2400 hrs). Approved S/d for 400kV Bus-1 & Bus-2 from 17.01.2025 to 24.01.2025 (07 nos days), 220kV Bus-1 & Bus-2 from 01.02.2025 to 08.02.2025 (07 nos days)
TOTAL shutdown allowed was 30 days only (Maximum 150 working hrs)			



It is submitted that the petitioner needed to avail shutdown on continuous basis, as the secured and continuous shutdowns would have helped in better planning and speedy execution. However, it is evident from the above deliberation that continuous basis shutdown was not provided for desired period. Further, shutdowns were approved intermittently and only after off-peak time of Solar generation, which led to very less working periods for completion of the works. The delay of more than 225 days (working 1106 hrs) is due to non-availability of required shutdowns at Fatehgarh-II PS.

Copy of relevant OCC meetings are enclosed hereto as **Encl-5**.

As is evident from above that the delay was beyond the control of POWERGRID and that the events associated with delay were unforeseen, and through our efficient and relentless efforts, prudent practice in project planning & execution the delay was curtailed. It is prayed to the Hon'ble Commission to condone the delay in completion of subject assets on merit of the same being beyond the control of Petitioner.

18. Estimated Completion Cost:

The present Petition for determination of tariff is filed in line with provision 9(1) of Tariff Regulations, 2024 applicable for 2024-29 period. The capital cost incurred up to DOCO and projected to be incurred during 2024-25, 2025-26 and 2026-27, is duly certified in Auditor Certificate. Copy of the said Auditor Certificate(s) is enclosed and marked as **Encl-6**.

₹ in Lakhs

Asset No	Approved Cost (FR)	Expenditure Up to DOCO	Projected Expenditure for FY				Estimated Completion Cost
			2024-25	2025-26	2026-27	2027-28	
Asset-1	5641.00	3638.18	0.30	1047.08	174.51	174.51	5034.58

It may be seen from the above table that against the approved cost of ₹5641.00 Lakhs as per FR apportioned cost and ₹5568.00 Lakhs as per CTUIL OM indicative cost, the estimated completion cost for the project is ₹5034.58 Lakhs. There is no cost overrun for Asset-1 w.r.t FR apportioned approved cost and CTUIL OM cost indicative cost. The item-wise cost variation between FR approved cost and estimated completion cost have been given in Form-5.

Tariff for the instant asset have been claimed on the basis of Capital Cost as on proposed/actual DOCO and projected expenditure during 2024-29. Hence, it is humbly



prayed that Tariff may be allowed on the completion cost for the asset covered under instant Petition.

Details of the Initial Spares:

19. The Initial spares for the Assets have been calculated as per Regulation 23(d) of the Tariff Regulations, 2024 which provides as under:

“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%

Provided that:

Plant and Machinery cost shall be considered as the original project cost excluding IDC, IEDC, Land Cost and Cost of Civil Works. The generating company and the transmission licensee, for the purpose of estimating Plant and Machinery Costs, shall submit the break-up of head-wise IDC and IEDC in its tariff application

20. Considering the aforesaid Regulation, the initial spares are calculated as under:

(₹ in Lakhs)

Assets	Particulars	Cost for Spare Calculation (A)	Initial Spares Claimed (B)	Ceiling Limit (%) (C)	Initial Spares Allowable	Excess initial spares
					$D = [(A-B)*C / (100-C)]$	$[B-D]$
Asset-1	Substation (Brown Field)	4764.89	248.39	6.0	288.29	-39.90

It is submitted that the Initial spares under Sub-station (Brown Field) head for the Asset-1 is within the specified allowable limit as per the Regulation 23 of the Tariff Regulations, 2024.



It is further mentioned that expenditure on initial spares included in the auditor certificate as per actual cash expenditure incurred (means the initial spares discharged upto DOCO included in the DOCO cost of auditor certificate and discharged after DOCO has included in the additional capital expenditure of respective year in the auditor certificate). Discharge of initial spares as included in the auditor certificate is given below. Since the expenditure on initial spares are included in the auditor certificate as per cash outflow, it is requested to Hon'ble Commission to allow the same as claimed in the petition.

(₹ in Lakhs)

Asset	Total spares Claimed	Expenditure on initial Spares Upto COD and included in auditor certificate upto COD	Expenditure on initial spares in 2024-25 (Add Cap)	Expenditure on initial spares in 2025-26 (Add Cap)	Expenditure on initial spares in 2026-27 (Add Cap)	Expenditure on initial spares in 2027-28 (Add Cap)
Asset-1	248.39	103.47	0.00	108.69	18.12	18.11

Therefore, it is prayed to this Hon'ble Commission to allow the initial spares as claimed in the present petition.

Details of the Additional Capitalization

21. The details of additional capitalization (Add Cap) claimed during 2024-29 tariff block is given as hereunder:

The admissibility of additional capital expenditure (Add Cap) incurred after the proposed DOCO is to be dealt with in accordance with the provisions of Regulation 24 of CERC Tariff Regulations, 2024. The extract of Regulation 24 of the Tariff Regulations, 2024 is reproduced as under:

"Additional Capitalization"

(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) Payment made towards admitted liabilities for works executed up to the cut-off 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) Payment against the award of arbitration or for compliance with the directions or order of any statutory authority or order or decree of any court of law;
- (e) Change in law or compliance with any existing law which is not provided for in the original scope of work;
- (f) For uninterrupted and timely development of Hydro projects, expenditure incurred towards developing local infrastructure in the vicinity of the power plant not exceeding Rs. 10 lakh/MW shall be considered as part of capital cost and in case the same work is covered under budgetary support provided by Government of India, the funding of such works shall be adjusted on receipt of such funds; Provided that such expenditure shall be allowed only if the expenditure is incurred through Indian Governmental Instrumentality; and
- (g) 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.

Cutoff date:

SI No.	Asset	DOCO date	Cutoff date
1	Asset-1	14-02-2025	31-03-2028

Add cap for 2024-29 block:

Asset	Add cap detail (₹ in Lakhs)				
	2024-25	2025-26	2026-27	2027-28	2028-29
Asset-1	0.30	1047.08	174.51	174.51	0.00
	Applicable regulation (Tariff Regulations, 2024)				
	24(1)(b)	24(1)(a) & 24(1)(b)	24(1)(a) & 24(1)(b)	24(1)(a) & 24(1)(b)	N A

A liability flow statement having Package/ Contractor wise detail along with applicable regulation is enclosed at **Encl-7**.



TRANSMISSION TARIFF for 2024-29 BLOCK:

22. That as per Regulation 8(1) (i) & (ii), 14 (5) and Regulation 15 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, the tariff for transmission of electricity on Inter-State transmission system (ISTS) shall comprise transmission charges for recovery of annual fixed cost consisting of (a) Return on Equity, (b) Interest on Loan Capital, (c) Depreciation, (d) Interest on Working Capital and (e) Operation and maintenance expenses.
23. The tariff for block 2024-29 has been worked out as per Regulation 10 of the CERC (Terms and Conditions of Tariff) Regulations, 2024. In the present petition the transmission tariff has been calculated considering the actual Expenditure upto DOCO and Actual/estimated expenditure from DOCO to 31.03.2029. The tariff formats have been worked out as per Annexure-I, Part III of the Tariff Regulations for period 2024-29.
24. Further, for the instant asset, details of capital cost of asset considering the accrual IDC under add cap during the year of discharge is tabulated below:

Asset-1:**₹ in Lakhs**

Sl. No	Expenditure	Bldg and civil works	Substation	Comm. system exl. OPGW	IT eqpt	Total
1	Expenditure upto DOCO As per Auditor Certificate	0.00	3618.49	0.00	19.69	3638.18
2	Less: Accrual IDC undischarged upto DOCO	0.00	7.57	0.000	0.04	7.61
3	Expenditure upto DOCO Excluding Accrual IDC	0.00	3610.92	0.00	19.65	3630.57
4	Add Cap during 2024-25 as per auditor certificate	0.00	0.30	0.00	0.00	0.30
5	Add: Accrual IDC Discharge during FY 2024-25	0.000	6.71	0.00	0.04	6.75
6	Expenditure 2024-25 (Including Accrual IDC)	0.00	7.01	0.00	0.04	7.05
7	Estimated expenditure during 2025-26 (As per auditor certificate)	0.00	1042.01	0.00	5.07	1047.08
8	Add: Accrual IDC Discharge during FY 2025-26	0.000	0.86	0.00	0.01	0.86
9	Expenditure 2025-26 (Including Accrual IDC)	0.00	1042.87	0.00	5.08	1047.94



Sl. No	Expenditure	Bldg and civil works	Substation	Comm. system exl. OPGW	IT eqpt	Total
10	Estimated expenditure during 2026-27 (As per auditor certificate)	0.00	173.66	0.00	0.85	174.51
11	Estimated expenditure during 2027-28 (As per auditor certificate)	0.00	173.66	0.00	0.85	174.51
12	Total Estimated Completion Cost	0.00	5008.12	0.00	26.46	5034.58

25. It is submitted that for the instant asset, Accrued IDC not discharged as on DOCO was not considered while calculating the tariff. The accrued IDC has been taken out of DOCO expenditure and added in the add cap, when it has been discharged in case of asset covered under the instant petition. The Hon'ble Commission is requested to kindly allow IDC on the basis of cash outflow. It is submitted that mismatch between Form-9C and Statement of cash IDC is due to deduction of loan from DOCO in Form-9C due to Add-cap for Accrual IDC to maintain Debt: Equity ratio of 70:30. Further, the entire amount of IEDC for the instant asset has been discharged as on DOCO. Cash IDC statement is enclosed at **Encl-8**.

26. The transmission tariff has been calculated based on audited cost and considering Accrued IDC if any to be discharged thereafter. Calculations for working out the tariff along with supporting documentation are enclosed as **Encl-9**. The annual transmission tariff for the tariff period 2024-29 is summarized as below:

(Rs in lakhs)

Asset	2024-25	2025-26	2026-27	2027-28	2028-29
Asset-1	94.60	834.54	924.07	945.30	953.79

27. That, it is submitted that the petitioner being liable to pay income tax at MAT rate prescribed vide The Taxation Laws (Amendment) Ordinance, 2019 published in the Gazette dt. 20th September 2019. The ROE has been calculated @ 18.782% after grossing up the ROE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the formula given at Regulation 31(2) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for 2024-29 period. That as per clause 31 of the above regulation, the grossed-up rate of ROE at the end of every financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the tariff period



2024-29 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 ROE 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. It is further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of tax including interest received from IT authorities shall be recoverable /adjustable during the tariff period 2024-29 on year-to-year basis on receipt of Income Tax assessment order.

28. Under CGST Act, 2017 implemented w.e.f. 01.07.2017, the Govt. of India has exempted the charges of transmission of electricity vide notification no. 12/2017 – Central Tax (Rate) dated 28.06.2017 at serial no. 25 under the heading 9969 “Transmission or distribution of electricity by an electric transmission or distribution utility” by giving applicable GST rate as NIL. Hence, the Transmission Charges as indicated at para 28 above is exclusive of GST. Further, if GST is levied at any rate and at any point of time in future on Charges of Transmission of Electricity, the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged & billed separately by the petitioner. Further additional taxes, if any, are to be paid by the petitioner on account of demand from Govt. / Statutory authorities, the same may be allowed to be recovered from the beneficiaries.
29. In the tariff calculation for 2024-29 period, Interest on Loan has been calculated on the basis of rate prevailing as on DOCO / 01.04.2024 for respective loans. The change in Interest rate due to floating rate of interest applicable, if any, for the project needs to be claimed / adjusted over the tariff block of 05 years directly from / with the beneficiaries.
30. The transmission charges at para-26 above is inclusive of O&M expenses derived for the subject asset based on the norms for O&M expenditure for Transmission System as specified under Regulation 36 (3) (a, b & c) of the Tariff Regulations for block 2024-29 but excludes security expenses, Insurance and capital spares as provided in the Regulation.
31. That as per Regulation 36(3)(d) of CERC Tariff Regulations, 2024, the Security Expenses, Insurance and Capital Spares more than 10 Lakh for transmission system shall be allowed separately after prudence check.



Security Expenses:

In this regard, it is submitted that a separate petition shall be filed for recovery of security expenses from 01.04.2024 to 31.03.2029 under the Regulation 36 (3) (d) of Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2024.

Insurance:

In this regard, it is submitted that a separate petition shall be filed before Hon'ble Commission for claiming the overall Insurance Expenses and consequential Interest on Working Capital (IOWC) on the same considering actual Insurance expenses incurred by the Petitioner for the F/Y 2023-24 after escalating the same at 5.25% per annum for arriving at the Estimated Insurance Expense for the year 2024-25, 2025-26, 2026-27, 2027-28 and 2028-29.

Capital Spare:

With regard to Capital Spares, the Petitioner has filed a separate Petition bearing No 45/MP/2024 for claiming the same for 2019-24 block under Tariff Regulations 2019. Further, as per Tariff Regulations, 2024, Capital spares consumes and consequential Interest on Working Capital (IOWC) on the same shall be claimed by the Petitioner as per actual through a separate petition.

Accordingly, these expenses are not claimed in the subject petition through the relevant Tariff Form and shall be claimed separately.

32. That as per Regulation 99 of CERC Tariff Regulations, 2024, the fees and charges of Central Transmission Utility of India Limited ('CTUIL') shall be allowed separately by the Commission through a separate regulation. Further, it provides that that until such regulation is issued by the Commission, the expenses of CTUIL shall be borne by POWERGRID which shall be recovered by POWERGRID as additional O&M expenses through a separate petition.

Accordingly, the expenses of CTUIL borne by POWERGRID shall be claimed through a separate petition.

33. The application filing fee, expenses incurred on publication of Notices in Newspapers and License fee may be allowed to be recovered separately from the respondents in terms of Regulation 94(1) and 94(4) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024. The fees and charges to be paid by the petitioner as ISTS licensee (deemed ISTS licensee) under CERC (Fees and



Charges of RLDC and other matters) Regulations as amended from time to time shall also be recoverable from the DICs as provided under clause 94 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.

34. The Transmission Charges and other related Charges indicated at para-26 above, is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee, RLDC fees and charges, capital spares, security expenses, insurance expenses or any other kind of imposition (s) and/ or other surcharges etc. whatsoever imposed / charged by any Government (Central/State) and / or any other local bodies/authorities/regulatory authorities in relation to transmission of electricity, environmental protection, and/or in respect of any of its installation associated with the Transmission System and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner on the respondents.

Sharing of Transmission Charges

35. Tariff for Transmission of Electricity (Annual Fixed Cost) for 2024-29 as per para 26 above shall be recovered on monthly basis in accordance with Regulation 78 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 and shall be shared by the beneficiaries and long-term transmission customers in accordance with the Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2020 or as amended from time to time.
36. In the circumstances mentioned above it will be just and proper that the transmission tariff for the asset covered under this petition be allowed to be charged from the beneficiaries on the basis set out above. **The Petitioner submits that Encl.-1 to Encl.-9 may please be treated as integral part of this petition.**

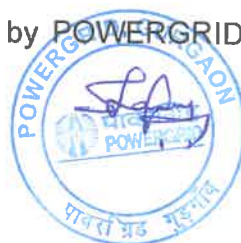
PRAYER

It is respectfully prayed that the Hon'ble Commission may be pleased to

- a) Admit the capital cost as claimed in the Petition and approve the Additional Capitalization incurred / projected to be incurred.



- b) Approve the Transmission Tariff for tariff block 2024-29 block for the asset covered under this petition, as per para 26 above.
- c) Condoned the Time overrun in commissioning of the instant asset.
- d) 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 Regulations, 2024 as per para 26 above for respective block.
- e) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 94 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, and other expenditure (if any) in relation to the filing of petition.
- f) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 94 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024.
- g) 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 2024-29 period, if any, from the beneficiaries.
- h) Allow the petitioner to claim the overall security expenses and consequential IOWC on that security expenses separately as mentioned at para 31 above.
- i) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall insurance expenses and consequential IOWC on that insurance expenses as mentioned at para 31 above.
- j) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall capital spares at the end of tariff block as per actual as mentioned at Para 31 above.
- k) Allow the petitioner to claim expenses of CTUIL borne by POWERGRID through a separate petition as mentioned at para 32 above.



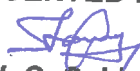
- l) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.
- m) Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for purpose of inclusion in the PoC charges and
- n) Pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.

GURGAON

DATE:13.05.2025

POWER GRID CORPORATION OF INDIA LTD.

REPRESENTED BY


(V. C. Sekhar)

Sr. General Manager (Regulatory Cell)



BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION,

NEW DELHI

Petition No. ____ /TT/ ____

IN THE MATTER OF:

Petition for determination of tariff under Section 62 read with Section 79 (1) (d) of the Electricity Act, 2003 and under the Regulation 15 (1) (a) and Regulation 23 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 read with Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2024 for the Asset: 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays under **“Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS”**.

Power Grid Corporation of India Ltd

Registered office: B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi. 110 016.

Corporate Centre: 'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

---PETITIONER

Uttar Pradesh Power Corporation Ltd.
Shakti Bhawan, 14, Ashok Marg

---RESPONDENT(S)

Lucknow - 226 001

Represented by Its Chairman

And Others

AFFIDAVIT VERIFYING THE PETITION

I, V. C. Sekhar, S/O Late Shri V. Devaiah, working as Senior General Manager (Regulatory Cell) in the Power Grid Corporation of India Ltd., having its registered Office at B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110 016, do hereby solemnly affirm and state as under: -

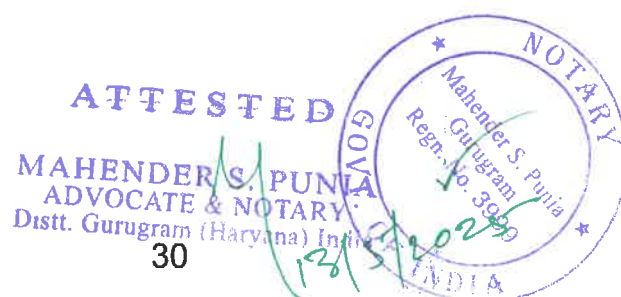


1. That the deponent is the Senior General Manager of Petitioner and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.
2. That the accompanying Petition under Section 62 of the Electricity Act, 2003, has been filed by my authorized representative/nominated counsel under my instruction and the contents of the same are true and correct to the best of my knowledge and belief.
3. That the contents of Para 1 to 38 of the facts as mentioned in the Petition are true and correct based on my personal knowledge, belief and records maintained in the office and the contents of Para 1 to 38 of the Petition are believed to be true on the basis of the legal advice received.
4. That the annexures annexed to the Petition are correct and true copies of the respective originals.
5. That the Deponent has not filed any other Petition or Appeal before any other forum or court of law with respect to the subject matter of the dispute



VERIFICATION

Solemnly affirmed at Gurugram on this 13th day of May 2025 that the contents of the above affidavit are true to my knowledge and belief and no part of it is false and nothing material has been concealed there from.



Ref: CC/Commercial/2024

Date: 28.08.2024

LETTER OF AUTHORIZATION

In reference to the POWER OF ATTORNEY dated 14.08.2024 and in supersession of letter of authorization dated 13.12.2022 I hereby authorize following executives to sign Petitions, Appeals, Vakalatnama, Affidavits, etc. and to represent POWERGRID before various forums/ courts / tribunals i.e Central Electricity Regulatory Commission, State Electricity Regulatory Commission, Appellate Tribunal for Electricity, High courts and Supreme Court etc. :

1. Sh. Mohd. Mohsin, Chief General Manager
2. Sh. V. C. Sekhar, Senior General Manager
3. Sh. Zafrul Hasan, General Manager

Further, following executives are authorised to represent cases before Central Electricity Regulatory Commission and Appellate Tribunal for Electricity

1. Sh. Angaru Naresh Kumar, Deputy General Manager
2. Smt. Suchitra Gautam, Deputy General Manager
3. Sh. Vishal Sagar, Deputy General Manager
4. Sh. G. Vijay, Deputy General Manager
5. Sh. Vivek Kumar Singh, Deputy General Manager
6. Sh. Amit Kumar Chachan, Deputy General Manager
7. Smt. Supriya Singh, Chief Manager (Law)
8. Sh. Arjun Malhotra, Manager (Law)
9. Smt. Tanushree Rao, Deputy Manager (Law)


28/08/2024

Dilip Nagesh Rozekar
Executive Director (Commercial & RC)

दिलीप रोजेकर / DILIP ROZEKAR

Executive Director (Commercial & Regulatory Cell)
पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Ltd.
(भारत सरकार का उद्यम) / (A Govt. of India Enterprise)
Plot No.-2, Sector-29, Gurgaon-122 001 (Haryana)



केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं. 2, सेक्टर-29, गुरुग्राम-122001, (हरियाणा), दूरभाष : 0124-2671700-719
Corporate Office : "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel. : 0124-2671700-719

पंजीकृत कार्यालय : बी-9, कुतब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016. Tel.: 011-26560112, 26564812, 26564812, 26564892, मोबाइल : L40101DL1989GOI038121
Registered Office : B-9, Qutab Institution Area, Katwaria Sarai, New Delhi-110016. Tel.: 011-26560112, 26564812, 26564812, 26564892, CIN : L40101DL1989GOI038121
Website : www.powergridindia.com

C/CP/PA2223-10-0AL-IA021

January 23, 2023

MEMORANDUM

SUB: Investment Approval for "Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS"

Investment approval for "Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS" has been accorded by CMD on January 22, 2023 as per the details given below:

1. SCOPE OF PROJECT

Broad Scope of works:

Extension of 400/220 kV Fatehgarh-II PS

Augmentation of transformation capacity by 1x500 MVA 400/220kV ICT (6th) at Fatehgarh-II PS (under Bus section-1) along with its associated bays.

400 kV

400/220 kV, 500 MVA ICT (6th): 1 no.

400 kV ICT bay: 1 no.

220 kV

220 kV ICT bay: 1 no.

(with cable/GIS duct connection)

2. PROJECT COST & FUNDING

The estimated cost of the project based on September, 2022 price level is **₹56.41 crore** including IDC of **₹2.13 crore**. The abstract cost estimate is attached as **Annexure - I**.

The project is proposed to be implemented through Debt (70%) and Equity (30%) with loan component from domestic borrowing/ bonds/ External Commercial Borrowing (ECB) etc. and equity component through internal resources.

3. COMMISSIONING SCHEDULE

The project is scheduled to be commissioned by 13.04.2024.

(Best efforts shall be carried out to implement the transmission scheme by 13.01.2024).


(Krishna Kumar Kandpal)
Sr.DGM (CP)

केन्द्रीय कार्यालय "सौदामिनी" : प्लॉट नंबर 2, सेक्टर -29, गुरुग्राम -122001, (हरियाणा दूरभाष (0124-2571700-719

Corporate Office: "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel.: 0124-2571700-719

पंजीकृत कार्यालय: बी -9, कुतुब इंस्टीटयूशनल एरिया, कटवारिया सराय, नई दिल्ली -110 016. दूरभाष :011-26560112, 26560121, 26564812, 26564813, 26564814, 26564815, 26564816, 26564817, 26564818, 26564819, 26564820, 26564821, 26564822, 26564823, 26564824, 26564825, 26564826, 26564827, 26564828, 26564829, 26564830, 26564831, 26564832, 26564833, 26564834, 26564835, 26564836, 26564837, 26564838, 26564839, 26564840, 26564841, 26564842, 26564843, 26564844, 26564845, 26564846, 26564847, 26564848, 26564849, 26564850, 26564851, 26564852, 26564853, 26564854, 26564855, 26564856, 26564857, 26564858, 26564859, 26564860, 26564861, 26564862, 26564863, 26564864, 26564865, 26564866, 26564867, 26564868, 26564869, 26564870, 26564871, 26564872, 26564873, 26564874, 26564875, 26564876, 26564877, 26564878, 26564879, 26564880, 26564881, 26564882, 26564883, 26564884, 26564885, 26564886, 26564887, 26564888, 26564889, 26564890, 26564891, 26564892, 26564893, 26564894, 26564895, 26564896, 26564897, 26564898, 26564899, 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ABSTRACT COST ESTIMATE		
Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS		
(September 2022 Price Level)		
Sl. No.	DESCRIPTION	AMOUNT (Rs in Crore)
A	Civil Works	
	i) Infrastructure for substations	0.20
B	Equipment Cost	
	a) Substation	47.51
C	Sub Total (A to B)	47.71
D	Incidental Expenditure During construction (IEDC) @ 10.75% of [C]	5.13
E	Contingencies @ 3% of [C]	1.43
	Sub Total (A to E)	54.28
F	Interest During Construction (IDC)	2.13
	GRAND TOTAL	56.41



वितरण /Distribution:

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2. Administrative Secretary, Power Development and New & Renewable Energy Department, UT of Ladakh
3. Managing Director, Himachal Pradesh Power Transmission Corporation Ltd., Barowalias House, Khalini, Shimla - 171 002
4. CMD, Punjab State Transmission Corporation Ltd., PSEB Head Office, The Mall, Patiala - 147 001
5. CMD, Haryana Vidyut Prasaran Nigam Ltd., Shakti Bhawan, Sector-6, Panchkula (Haryana)- 134 109
6. CMD, Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Vidyut Bhawan, Janpath, Jaipur- 302 005.
7. CMD, UPPCL, Shakti Bhawan, 14, Ashok Marg, Lucknow- 226 001
8. Managing Director, PTCUL, Vidyut Bhawan, Majra, Dehradun – 248 002
9. Managing Director, Delhi Transco Limited (DTL), Shakti Sadan, Kotla Road, New Delhi- 110 002
10. Chief Engineer, Electricity Deptt, Chandigarh Administration, Mini Secretariat (U.T.), Sector-9, Chandigarh
11. CMD, Grid Controller of India Limited, B-9 (1st Floor), Qutab Institutional Area, Katwaria Sarai, New Delhi -11001

प्रति विनम्र सूचनार्थ /Copy for kind information, please:

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12. Joint Secretary (Plan Finance Div.-II), Ministry of Finance, North Block, New Delhi- 110 001
13. Director (Transmission), MoP, Shram Shakti Bhawan, New Delhi- 110 001
14. Director, Ministry of Finance (Plan finance Div.), North Block, New Delhi- 110 001
15. Deputy Secretary, Cabinet Secretariat, Rashtrapati Bhawan, New Delhi- 110 001
16. Under Secretary, Finance & Budget Section, MoP, Shram Shakti Bhawan, New Delhi- 110 001



(Krishna Kumar Kandpal)
Sr.DGM (CP)





भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

सं. उ.क्षे.वि.स./ वाणिज्यिक/ 209/ आर पी सी (54वीं)/2022/ 5057-5104

दिनांक: 27, जून, 2022

सेवा में / To,

उ.क्षे.वि.स. के सभी सदस्य (संलग्न सूचीनुसार)
Members of NRPC (As per List)

विषय: उत्तर क्षेत्रीय विद्युत समिति की 54^{वीं} बैठक का कार्यवृत्त ।

Subject: 54th meeting of Northern Regional Power Committee – MoM

महोदय / Sir,

उत्तर क्षेत्रीय विद्युत समिति की 54^{वीं} बैठक दिनांक 31 मई, 2022 को 1100 बजे विडियो कॉन्फ्रेंसिंग के माध्यम से आयोजित की गयी थी। बैठक का कार्यवृत्त संलग्न है। यह उ.क्षे.वि.स. की वेबसाइट (<http://164.100.60.165/>) पर भी उपलब्ध है।

The 54th meeting of Northern Regional Power Committee (NRPC) was held at 1100 Hrs on 31st May, 2022 via video conferencing. MoM of the same is attached herewith. The same is also available on NRPC Sectt. website (<http://164.100.60.165/>).

भवदीय

Yours faithfully,

Naresh Bhandari

(नरेश भंडारी)

(Naresh Bhandari)

सदस्य सचिव

Member Secretary

27/6/22



In the meeting, POWERGRID representative expressed concern on the DC current quantum observed at Fatehgarh-II. It was observed that DC currents are exceeding 8-10A as per PQA measurements done by POWERGRID which are not designed to face such issues. Since the transformer design at RE ISTS pooling substation is similar to the transformer commissioned at other AC substations, therefore this reduces life of the transformer.

RVPN representative stated that only undertakings are being taken by SLDC as of now, no field measurements are being taken. It was informed that such tests are being done by MPTS wing and they shall share with CTU & POSOCO.

MS, NRPC enquired whether if RE generator can be disconnected if it is not able to comply CEA regulations.

CTU representative stated that as per amended CEA regulations on technical standards for connectivity to grid issued in 2019, it is clear that the user may be disconnected from the grid in case of non-compliance of any provision of the regulations reported by licensee or SLDC/RLDC.

MS, NRPC states that number of issues are being faced related to RE compliances. Same may also be discussed in a separate meeting with participation from CTU, NRLDC, NRPC, RVPN and RE developers.

POWERGRID representative also stated that regular protection audits may also be conducted by team from NRLDC, NRPC, POWERGRID and STU so that all RE developers are sensitized and remain active.

NRPC concurred with view of members.

A.10 Review of Transmission Planning criteria for RE (N-0) to N-1 (agenda by NRLDC)

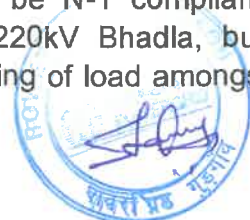
A.10.1 Continuous overloading of 400/220 kV Transformers at Bhadla in early stage of substation: The ICT in Bhadla substation generally run under full load condition. In the initial period after commissioning (2019) the 03 ICTs (approx. 1470 MW) were running in overloaded condition. Sometimes, the loading went upto 110% loading with all fans & pumps operational. A sample datapoint for loading is exhibited below.

A.10.2 In Fatehgarh-II PS also similar loading levels are observed on 5 nos. 500 MVA ICTs. The overloading of transformers, variations in their loading throughout the day and heating/cooling cycle do affect the life of the transformer in the long run.

A.10.3 Therefore, it was discussed in the meeting that high RE capacity Substations must have N-1 compliance at 400/220 kV level i.e., Fatehgarh-II (both sections)/Fatehgarh-III PS, Bhadla-II PS etc. for which revised transmission planning criteria must have suitable provisions.

A.10.4 POSOCO representative that POSOCO has always advocating the N-1 compliance of ICTs, lines for evacuation of bulk RE power reliably and safely.

In addition, bus sectionalization at pooling station should have arrangements such that sharing on ICTs loading on each bus remain commensurate with underlying RE connected generation and ICTs on each bus should be N-1 compliant. Recently, in NR, it has been observed that at 765/400/220kV Bhadla, bus sectionalization couldn't be utilized because of unequal sharing of load amongst



ICTs. NRLDC has highlighted this issue vide NRLDC letter dated 26th April 2022 to CTU/CEA/PGCIL/NRPC, enclosed as Annexure VII of agenda.

- A.10.5 NRPC forum agreed that CTU may explore possibility of ensuring N-1 non-compliance at 400/220kV RE pooling stations with higher 400/220kV capacity on case-to-case basis and take up the ICT augmentation proposal for approval on priority. CTU agreed for the same.



सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उदयम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)

(A Government of India Enterprise)

Ref: CTU/N/00/CMETS/08

Date: 20-07-2022

As per distribution list

Subject: 8th Consultation Meeting for Evolving Transmission Schemes in Northern Region-Minutes of Meeting

Dear Sir/Ma'am,

Please find enclosed the minutes of the 8th Consultation Meeting for Evolving Transmission Schemes in Northern Region held on 30th June, 2022 through virtual mode. The minutes are also available at CTU website (www.ctuil.in)

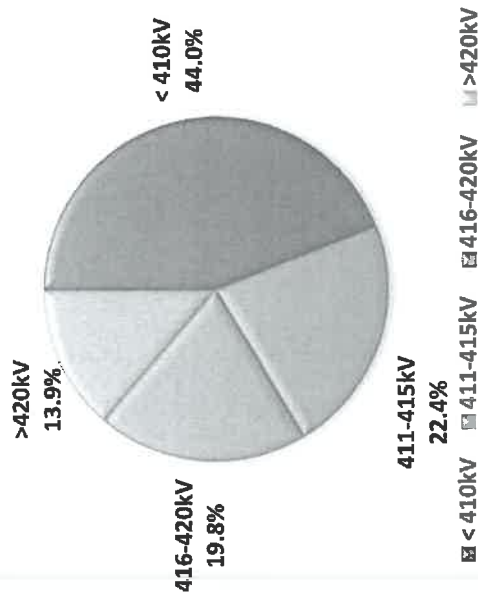
Thanking you,

Yours faithfully,


(Kashish Bhambhani)
General Manager



Voltage Profile at Ballabgarh_2 400 kV bus



From above, it may be seen that 400kV Ballabgarh S/s voltage remained >415 kV for about 34% time. Considering above and the high voltage prevailing in NR grid, it is recommended to replace 420 kV 80MVAR bus reactor at Ballabgarh with 420 kV 125 MVAR bus reactor.

CEA and POSOCO also recommended for Replacement of 80MVAR (420kV) Bus Reactor at Ballabgarh S/s with 125 MVAR (420kV) Bus Reactor in view of prevailing high voltage issues in NR. POWERGRID also confirmed feasibility of replacement. In view of above, proposal for 125 MVAR (420kV) Bus Reactor was agreed.

2. Implementation of "N -1" contingency at RE pooling substations in NR

It was deliberated that CEA transmission planning criteria, section 16.2 mentions that "The 'N-1' criteria may not be applied to the immediate connectivity of wind/solar farms with the ISTS/Intra-STS grid i.e. the line connecting the farm to the grid and the step-up transformers at the grid station." The above criteria is also followed in planning of transmission system for integration of renewable energy zones in Rajasthan.

It was stated that POWERGRID vide letters dated 17th May 2022 & 19th May 2022 informed CTU that as per the current practice, N-1 criteria is not being implemented at planning stage of network with respect to step up transformers at RE pooling stations in Rajasthan (Bhadla-2, Fatehgarh-2 & Bikaner). Due to this, outage of any transformer in above stations will result into overloading of other transformers leading to cascaded tripping on overload/higher temperature and may adversely impact both RE generation as well as health of the transformers. In view of the above, POWERGRID requested CTU to implement additional 400/220kV ICTs at RE pooling stations to meet the N-1 criteria for smooth evacuation of power. POWERGRID also recommended that, N-1 criteria may be taken into consideration during planning stage for upcoming RE pooling stations.

Subsequently, in 54th NRPC meeting held on 31.05.2022, POSOCO highlighted the events of overloading of ICTs and cascaded tripping of generations at Bhadla in early stage of substation. POSOCO informed that in Fatehgarh-II PS also face similar loading levels are observed on 5 nos. 500 MVA ICTs. POSOCO also stated that the overloading of transformers, variations in their loading throughout the day and heating/cooling cycle do affect the life of the transformer in the long run. POSOCO stated that above observation were made by POWERGRID in NRPC meeting, however in minutes it is mentioned as POSOCO comments. POSOCO suggested that high RE capacity Substations must have N-1 compliance at 400/220 kV level i.e., Fatehgarh-II (both sections)/Fatehgarh-III PS, Bhadla-II PS etc. for which revised transmission planning criteria must have suitable provisions. In addition, bus sectionalization at pooling station should have arrangements such that sharing on ICTs loading on each bus remain commensurate with underlying RE connected generation and ICTs on each bus should be N-1 compliant. NRPC agreed in the meeting that CTU may explore possibility of ensuring N-1 compliance at 400/220kV RE pooling stations with higher RE capacity on case-to-case basis and take up the ICT augmentation proposal for approval on priority.

Accordingly, requirement of 400/220kV ICTs at each section of Bhadla-2, Fatehgarh-2 & Bikaner PS to meet the N-1 compliance were deliberated as under:

S. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity at Commissioned (MW)	LTA Granted (MW)	Remarks
1	Fatehgarh-2 (Section 1) 6 th ICT of 500MVA	5x500	2490	1990	2490	It was stated that balance 500MW capacity is expected to be commissioned in next 1-2 months. Accordingly, 400/220kV, 1x500MVA (6 th) ICT in Section-1 was agreed to be taken up on urgent basis to meet 'N-1' criteria



S. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity at Commissioned (MW)	LTA Granted (MW)	Remarks
2	Fatehgarh-2 (Section 1A) 6 th ICT of 500MVA	4x500	2470	NIL	1820	<p>It was deliberated that Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS (5th ICT at Section-1A) was allocated to POWERGRID vide MoP OM dated 01.12.21 with implementation timeframe of 15 months from MOP OM or condition of evacuation requirement 4490 MW at 220 level of Fatehgarh-2 whichever is later</p> <p>At Present LTA of 4610MW is granted/agreed for grant at Fatehgarh-2 PS (1820MW at Section 1A). With this the total evacuation requirement at 220 level of Fatehgarh-2 will be 4610 MW(>4490 MW). Accordingly, the 5th ICT at Fatehgarh-2 Section-1A is being taken up along with LTA of Eden Bercy.</p> <p>Further, 1x500MVA 6th ICT at Section-1A at Fatehgarh-2 PS is to be taken up to meet "N-1" criteria in corresponding RE generation schedule with LTA beyond 2000 MW (at 220kV level) at Section-1A as well as well as for evacuation requirement beyond 2000MW in section-1A (with M/s Eden Renewable Bercy evacuation requirement is 2120MW at 220kV level)</p> <p>Schedule of above ICT is to be matched with LTA grant schedule of M/s Eden Bercy (Mar'24)</p>
	Bikaner PS 1x500MVA (3 rd) & 2x500 1x500MVA (4 th)		1110	204	935	<p>It was stated that Cumulative RE generation of more than 800 MW will be commissioned in next 3-4 months in Bikaner PS 220 KV level. Therefore, 400/220kV, 1x500MVA (3rd) ICT may be taken up on urgent basis to meet 'N-1' criteria. The ICT will also facilitate evacuation requirement beyond 1000MW at 220kV level of Bikaner PS.</p>



S. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity at Commissioned (MW)	LTA Granted (MW)	Remarks
4	Bhadla-2 (Section 1) 6 th ICT of 500MVA	5x500	2375	600	2075	Further, 400/220kV, 1x500MVA (4 th) ICT was agreed for LTA beyond 1000 MW at Bikaner (220kV level) For LTA quantum of 2075 MW, 5x500 MVA ICT is under establishment at Bhadla-2 Section 1.
5	Bhadla-2 (Section 1A) 4 th ICT of 500MVA	3x500	1520	NIL	420	POSOCO suggested that ICT may be taken up with the additional LTA beyond 2075 MW to meet 'N-1' criteria. Accordingly, it was decided that 400/220kV, 1x500MVA (6 th) ICT is to be taken up with the additional LTA beyond 2075 MW 3x500 MVA ICT is under establishment at Bhadla-2 Section 1A. LTA quantum at above 220kv section is 420 MW. 400/220kV, 1x500MVA (4 th) ICT may be taken up for implementation with LTA beyond 1000 MW (220kV level) to meet 'N-1' criteria

It was noted that in the Draft CEA Transmission planning criteria-2022, it is mentioned that “N-1 reliability criteria may be considered for ICTs at the ISTS /STU pooling stations for renewable energy-based generation of more than 1000 MW after considering the capacity factor of renewable generating stations.”

It was stated that, all the above substations are closed for grant of Stage-II connectivity on new bays. Therefore, with implementation of additional ICTs at each 400/220 kV section as mentioned in the above table, the N-1 compliance of above RE pooling stations can be achieved. POWERGRID vide mail dated 26.05.2022 confirmed the availability of space at these substations for implementation of additional ICTs at each 400/220 kV sections of Fatehgarh-2, Bhadla-2 & Bikaner PS along with Cable/GIS duct connection requirement.

Considering the security and reliability of the system, it was agreed to implement additional ICTs in each 400/220 kV sections of the RE pooling stations in order to meet the N-1 criteria as well as to meet the evacuation requirement. Scheme was agreed to be implemented in phases as under:

A) ICTs agreed to be taken up for implementation as system strengthening scheme on urgent basis

1. Augmentation with 400/220kV, 1x500MVA Transformer at Fatehgarh-2 PS (6th ICT at Section-1 with cable/GIS duct connection at 220kV side)
2. Augmentation with 400/220kV, 1x500MVA Transformer at Bikaner PS (3rd ICT)

B) ICTs agreed to be taken up for implementation on receipt of commensurate LTA quantum at RE pooling stations as shown below

1. Augmentation with 400/220kV, 1x500MVA Transformer at Bhadla-2 PS (4th ICT at Section-1A)
Implementation Timeframe: 15 months from the date of allocation of project or evacuation requirement beyond 1000 MW at 220kV level of Bhadla-2(Section-1A) whichever is later.
2. Augmentation with 400/220 kV 1x500 MVA (6th) ICT at Fatehgarh-2 PS (In Section-1A with cable/GIS duct connection at 220kV side)
Implementation Timeframe: 15 months from the date of allocation of project or evacuation requirement beyond 2000 MW at 220kV level of Fatehgarh-2(Section-1A) or LTA grant schedule of M/s Eden RE Bercy (Mar'24) whichever is later.
3. Augmentation with 400/220 kV 1x500 MVA(4th) ICT at Bikaner PS
Implementation Timeframe: 15 months from the date of allocation of project or evacuation requirement beyond 1000 MW at 220kV level of Bikaner PS whichever is later.
4. Augmentation with 400/220kV, 1x500MVA (6th) ICT at Bhadla-2 PS (In Section-1 with cable/GIS duct connection at 220kV side)
Implementation Timeframe 15 months from the date of allocation of project or evacuation requirement beyond 1000 MW at 220kV level of Bikaner PS whichever is later.

For optimal utilization of ICTs, it is recommended that Schedule for Part-B for S.No. 1,3, and 4 ICTs to be matched with RE generation schedule.



3 Space Allocation for Installation of 500 MW/1000MWh Standalone Battery Energy Storage Systems (BESS) at Fatehgarh-III PS

It was deliberated that Fatehgarh-III PS was planned to facilitate integration and evacuation of power from about 8GW RE potential envisaged in that area. Above PS is under implementation as part of Rajasthan SEZ Phase-II system by M/s POWERGRID Ramgarh

Annexure-X**List of Participants of 8th Consultation meeting for Evolving Transmission Schemes in NR held on 30.06.2022****CEA**

Smt. Manjari Chaturvedi Director
Smt. Komal Dy. Director

SECI

Shri R.K Agarwal Consultant

POSOCO

Shri Alok Kumar Sr.GM
Shri Gaurav Malviya Manager

CTU

Shri Kashish Bhambhani GM (CTU)
Shri Sandeep Kumawat Ch. Manager (CTU)
Smt. Ankita Singh Ch. Manager (CTU)
Shri R Narendra Sathvik Manager (CTU)
Shri Yatin Sharma Dy. Manager (CTU)
Shri Roushan Kumar Engineer (CTU)
Shri Madhusudan Meena Engineer (CTU)



SE/Planning

46

44

Shri Nitin Kumar Assistant Executive Engineer/Planning

HVPNL

Shri Rajesh Kumar Jangra XEN, System Study

DTL

Shri Loveleen Singh GM(T)

LTA/Connectivity Applicants

Shri A.K. Pathak	NHPC Limited
Shri Rajeev Thanvi	Solarcraft Power India 4 Pvt Ltd
Shri Ashish Agarwal	Solarcraft Power India 4 Pvt Ltd
Mr. Anwar Alam	Tidong Power Generation Pvt Limited
Shri Anurag Sharma	Tidong Power Generation Pvt Limited
Shri Himanshu Puri	Tidong Power Generation Pvt Limited
Shri Nawneet Kumar Chaudhary	Vector Green New Energies Private Limited
Shri Vishal	Vector Green New Energies Private Limited
Shri Ananth Raghavendra	Ayana Renewable Power Pvt Ltd
Shri Vivek Kodesia	Eden Renewables India
Shri Sudesh Pradhan	Juniper Green Stellar Private Limited
Shri Pratik Poddar	Juniper Green Stellar Private Limited
Shri Mohit Jain	ReNew Dinkar Urja Pvt Ltd./ IB Vogt Solar Seven Private Limited
Shri Aman Katoch	SJVN Limited
Shri Shivendera	SJVN Limited





भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

सं. उ.क्षे.वि.स./ वाणिज्यिक/ 209/ आर पी सी (56^{वीं})/2022/7443-7490 दिनांक: 18 अगस्त, 2022

सेवा में / To,

उ.क्षे.वि.स. के सभी सदस्य (संलग्न सूचीनुसार)
Members of NRPC (As per List)

विषय: उत्तर क्षेत्रीय विद्युत समिति की 56^{वीं} बैठक का कार्यवृत्त ।
Subject: 56th meeting of Northern Regional Power Committee – MoM

महोदय / Sir,

उत्तर क्षेत्रीय विद्युत समिति की 56^{वीं} बैठक दिनांक 29th जुलाई, 2022 को 1100 बजे विडियो कॉन्फ्रेंसिंग के माध्यम से आयोजित की गयी थी। बैठक का कार्यवृत्त संलग्न है। यह उ.क्षे.वि.स. की वेबसाइट (<http://164.100.60.165/>) पर भी उपलब्ध है।

The 56th meeting of Northern Regional Power Committee (NRPC) was held at 1100 Hrs on 29th July, 2022 via video conferencing. MoM of the same is attached herewith. The same is also available on NRPC Sectt. website (<http://164.100.60.165/>).

भवदीय
Yours faithfully,

(नरेश भंडारी) 18/8/22.
(Naresh Bhandari)
सदस्य सचिव
Member Secretary



high voltage issues in NR. POWERGRID also confirmed feasibility of replacement. In view of above, proposal for 125 MVAR (420kV) Bus Reactor was agreed.

- A.8.7 POWERGRID apprised that a similar petition was filed in CERC relating to Southern Region. The commission has approved the proposal for enhancement of rating of reactor.
- A.8.8 MS, NRPC asked POWERGRID to explain the breakup of financial burden to be shared by stakeholders due to replacement of the reactor. POWERGRID assured to submit the details.
- A.8.9 It was decided that POWERGRID may submit the cost details in next NRPC meeting.
- A.8.10 MS, NRPC expressed that utilities may plan replacement of old equipment in a combined scheme that may be executed in phases.
- A.8.11 Director (Planning), UPPTCL suggested that there is need of a proper guideline for such replacement. That may include CPRI recommendation.
- A.8.12 CTU representative stated that guideline may be a good tool for such cases.
- A.8.13 Forum decided that formation of a committee may be done to prepare draft guidelines and to formulate methodology regarding de cap of depreciated elements and replacing it with elements in add cap.

A.9 Implementation of "N -1" contingency at RE pooling substations in NR (agenda by CTU)

- A.9.1 Forum was apprised that in 8th CMETS-NR held on 30.06.2022, it was deliberated that CEA transmission planning criteria, section 16.2 mentions that "The 'N-1' criteria may not be applied to the immediate connectivity of wind/solar farms with the ISTS/Intra-STG grid i.e., the line connecting the farm to the grid and the step-up transformers at the grid station." The above criterion is also followed in planning of transmission system for integration of renewable energy zones in Rajasthan.
- A.9.2 It was apprised that POWERGRID vide letters dated 17th May 2022 & 19th May 2022 informed CTU that as per the current practice, N-1 criteria is not being implemented at planning stage of network with respect to step up transformers at RE pooling stations in Rajasthan (Bhadla-2, Fatehgarh-2 & Bikaner). Due to this, outage of any transformer in above stations will result into overloading of other transformers leading to cascaded tripping on overload/higher temperature and may adversely impact both RE generation as well as health of the transformers. In view of the above, POWERGRID requested CTU to implement additional 400/220kV ICTs at RE pooling stations to meet the N-1 criteria for smooth evacuation of power. POWERGRID also recommended that, N-1 criteria may be taken into consideration during planning stage for upcoming RE pooling stations.
- A.9.3 Subsequently, in 54th NRPC meeting held on 31.05.2022, the events of overloading of ICTs and cascaded tripping of generations at Bhadla in early stage of substation was discussed. It was discussed that Fatehgarh-II PS also faced similar loading on 5 nos. 500 MVA ICTs. It was deliberated in meeting that the overloading of transformers, variations in their loading throughout the day and heating/cooling cycle do affect the life of the transformer in the long run.
- A.9.4 It was discussed that high RE capacity substations must have N-1 compliance at 400/220 kV level i.e., Fatehgarh-II (both sections)/Fatehgarh-III PS, Bhadla-II PS etc. for which revised transmission planning criteria must have suitable provisions. In addition, bus sectionalisation at pooling station should have arrangements such that sharing on ICTs loading on each bus remain commensurate with underlying RE connected generation and ICTs on each bus should be N-1 compliant.



A.9.5 In 54th NRPC meeting held on 31.05.2022, it was agreed that CTU may explore possibility of ensuring N-1 compliance at 400/220kV RE pooling stations with higher RE capacity on case-to-case basis.

A.9.6 Accordingly, requirement of 400/220kV ICTs at each section of Bhadla-2, Fatehgarh-2 & Bikaner PS to meet the N-1 compliance were deliberated as under:

Sl. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity Commissioned (MW)	LTA Granted (MW)	Remarks
1	Fatehgarh-2 (Section 1) 6 th ICT of 500MVA	5x500	2490	1990	2490	It was stated that balance 500MW capacity is expected to be commissioned in next 1-2 months. Accordingly, 400/220kV, 1x500MVA (6 th) ICT in Section-1 was agreed to be taken up on urgent basis to meet 'N-1' criteria
2	Fatehgarh-2 (Section 1A) 6 th ICT of 500MVA	4x500	2470	NIL	1820	<p>It was deliberated that Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS (5th ICT at Section-1A) was allocated to POWERGRID vide MoP OM dated 01.12.21 with implementation timeframe of 15 months from MOP OM or condition of evacuation requirement 4490 MW at 220 level of Fatehgarh-2 whichever is later</p> <p>At Present LTA of 4610MW is granted/agreed for grant at Fatehgarh-2 PS (1820MW at Section 1A). With this the total evacuation requirement at 220 level of Fatehgarh-2 will be 4610 MW(>4490 MW). Accordingly, the 5th ICT at Fatehgarh-2 Section-1A is being taken up along with LTA of Eden Bercy.</p> <p>Further, 1x500MVA 6th ICT at Section-1A at Fatehgarh-2 PS is to be taken up to meet "N-1" criteria in corresponding RE generation schedule with LTA beyond 2000 MW (at 220kV level) at Section-1A as well as well as for evacuation requirement</p>

Sl. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity Commissioned (MW)	LTA Granted (MW)	Remarks
						beyond 2000MW in section-1A (with M/s Eden Renewable Bercy evacuation requirement is 2120MW at 220kV level) Schedule of above ICT is to be matched with LTA grant schedule of M/s Eden Bercy (Mar'24)
3	Bikaner PS 1x500MV A (3rd) & 1x500MV A (4th)	2x500	1110	204	935	It was stated that Cumulative RE generation of more than 800 MW will be commissioned in next 3-4 months in Bikaner PS 220 KV level. Therefore, 400/220kV, 1x500MVA (3 rd) ICT may to be taken up on urgent basis to meet 'N-1' criteria. The ICT will also facilitate evacuation requirement beyond 1000MW at 220kV level of Bikaner PS. Further, 400/220kV, 1x500MVA (4 th) ICT was agreed for LTA beyond 1000 MW at Bikaner (220kV level)
4	Bhadla-2 (Section 1) 6 th ICT of 500MVA	5x500	2375	600	2075	For LTA quantum of 2075 MW, 5x500 MVA ICT is under establishment at Bhadla-2 Section 1. It was discussed that since 2075MW LTA has been granted. Under N-1 of 5*500MVA ICTs, there will only be 75MW additional loading of 4*500MVA ICTs which can be managed for short duration of time. POWERGRID representative also confirmed that ICTs can be loaded with additional 75MW for short duration of time. Accordingly, it was decided that 400/220kV 1x500MVA (6 th) ICT is to be taken up

Sl. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity Commissioned (MW)	LTA Granted (MW)	Remarks
						with the additional LTA beyond 2075 MW.
5	Bhadla-2 (Section 1A) 4 th ICT of 500MVA	3x500	1520	NIL	420	3x500 MVA ICT is under establishment at Bhadla-2 Section 1A. LTA quantum at above 220kv section is 420 MW. 400/220kV, 1x500MVA (4 th) ICT may to be taken up for implementation with LTA beyond 1000 MW (220kV level) to meet 'N-1' criteria.

A.9.7 It was noted that in the Draft CEA Transmission planning criteria-2022, it is mentioned that “N-1 reliability criteria may be considered for ICTs at the ISTS /STU pooling stations for renewable energy-based generation of more than 1000 MW after considering the capacity factor of renewable generating stations.

A.9.8 It was stated that, all the above substations are closed for grant of Stage-II connectivity on new bays. Therefore, with implementation of additional ICTs at each 400/220 kV section as mentioned in the above table, the N-1 compliance of above RE pooling stations can be achieved. POWERGRID vide mail dated 26.05.2022 confirmed the availability of space at these substations for implementation of additional ICTs at each 400/220 kV sections of Fatehgarh-2, Bhadla-2 & Bikaner PS along with Cable/GIS duct connection requirement.

A.9.9 Considering the security and reliability of the system, it was agreed to implement additional ICTs in each 400/220 kV sections of the RE pooling stations in order to meet the N-1 criteria as well as to meet the evacuation requirement. Scheme was agreed to be implemented in phases as under:

A) ICTs agreed to be taken up for implementation as system strengthening scheme on urgent basis

1. Augmentation with 400/220kV, 1x500MVA Transformer at Fatehgarh-2 PS (6th ICT at Section-1 with cable/GIS duct connection at 220kV side)
2. Augmentation with 400/220kV, 1x500MVA Transformer at Bikaner PS (3rd ICT)

B) ICTs agreed to be taken up for implementation on receipt of commensurate LTA quantum at RE pooling stations as shown below

1. Augmentation with 400/220kV, 1x500MVA Transformer at Bhadla-2 PS (4th ICT at Section-1A)

Implementation Timeframe: 15 months from the date of allocation of project or evacuation requirement beyond 1000 MW at 220kV level of Bhadla-2(Section-1A) whichever is later.

2. Augmentation with 400/220 kV 1x500 MVA (6th) ICT at Fatehgarh-2 PS (In Section-1A with cable/GIS duct connection at 220kV side)

Implementation Timeframe: 15 months from the date of allocation of project or evacuation requirement beyond 2000 MW at 220kV level of



Fatehgarh-2(Section-1A) or LTA grant schedule of M/s Eden RE Bercy (Mar'24) whichever is later.

3. Augmentation with 400/220 kV 1x500 MVA(4th) ICT at Bikaner PS

Implementation Timeframe: 15 months from the date of allocation of project or evacuation requirement beyond 1000 MW at 220kV level of Bikaner PS whichever is later.

4. Augmentation with 400/220kV, 1x500MVA (6th) ICT at Bhadla-2 PS (In Section-1 with cable/GIS duct connection at 220kV side)

Implementation Timeframe 15 months from the date of allocation of project or evacuation requirement beyond 2075 MW at 220kV level of Bhadla-II PS whichever is later.

A.9.10 For optimal utilization of ICTs, it is recommended that Schedule for Part-B for S. No. 1,3, and 4 ICTs to be matched with RE generation schedule.

A.9.11 Director (Technical), Punjab suggested to take up the issue of N-1 non-compliance through a mix of System Protection Scheme (SPS) at places where the transformer capacity is already high and to do capacity addition at places where transformer capacity is low. He emphasized that high capital cost of additional ICT for N-1 compliance may be rationalized.

A.9.12 CTU representative apprised that recently more capacity is commissioned at 220kV level of Fatehgarh-2 (total about 2300 MW) & Bikaner (total about 500 MW) PS, therefore augmentation of 400/220kV, 1x500MVA Transformer at Fatehgarh-2 PS and 400/220kV, 1x500MVA Transformer at Bikaner PS is urgent need of the hour as the balance 200MW capacity is expected to be commissioned in next 1-2 months at Fatehgarh-2 PS (220kV level) and commissioning of RE generation of balance 500 MW in next 3-4 months at Bikaner PS 220 KV level.

A.9.13 MS, NRPC stated that capacity addition as mentioned in A.9.9 Part –A for maintaining N-1 criteria may be considered. N-1 implementation scheme as mentioned in A.9.9 Part-B may be taken up as and when the need arises in the subsequent NRPC meetings. He also denied SPS as a viable alternative for ensuring N-1 contingency at RE Pooling Substations as it will lead to Partly/Full loss of generation of must run RE power.

A.9.14 NRLDC highlighted that agenda text may be made in line with actual discussion of 54th NRPC meeting and 8th CMETS meeting.

A.9.15 NRPC representative stated that there is no need to amend agenda. However, corrections desired by NRLDC shall be taken in Mom of this meeting itself.

A.9.16 Forum approved the proposal of CTU for following:

- i. Augmentation with 400/220kV, 1x500MVA Transformer at Fatehgarh-2 PS (6th ICT at Section-1 with cable/GIS duct connection at 220kV side)
- ii. Augmentation with 400/220kV, 1x500MVA Transformer at Bikaner PS (3rd ICT)

A.9.17 Forum decided that CTU may put up agenda in NRPC meetings for augmentation of other ICTs on receipt of commensurate LTA in future.

A.10 Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-1) (Bikaner Complex: 7.7GW) (agenda by CTU)

A.10.1 Forum was apprised that CTU has submitted the following proposal:

Sl. No.	Items	Details
1.	Name of Scheme	Transmission system for evacuation of power from Rajasthan REZ Ph-IV (Part-1) (Bikaner Complex: 7.7GW)



सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)
(भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

(A wholly owned subsidiary of Power Grid Corporation of India Limited)
(A Government of India Enterprise)

Ref.: C/CTU/AI/00/8th CCTP

14th October 2022

OFFICE MEMORANDUM

Sub: Inter-State Transmission Schemes (costing up to Rs.100 Cr.) to be taken up for implementation under Regulated Tariff Mechanism (RTM).

The undersigned is directed to inform that CTU has approved the implementation of the following ISTS costing less than or equal to Rs.100 Cr. in line with the MoP office order dated 28.10.2021 under the Regulated Tariff Mechanism (RTM) mode by the implementing agencies as indicated in the table below:

Sl.	Name of scheme	Implementing Agency
Northern Region		
1.	Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS.	Power Grid Corporation of India Ltd.
2.	Augmentation of Transformation capacity by 1x500MVA, 400/220kV ICT (3rd) to cater to the N-1 contingency requirement at Bikaner PS.	Power Grid Corporation of India Ltd.
3.	Reactive power compensation on 400kV transmission lines in NR.	Power Grid Corporation of India Ltd.
Eastern Region		
4.	Eastern Region Expansion Scheme-XXXI (ERES-XXXI).	Power Grid Corporation of India Ltd.
North Eastern Region		
5.	North Eastern Region Expansion Scheme-XIX (NERES-XIX).	Power Grid Corporation of India Ltd.

The detailed scope of works for the above transmission schemes, as approved by CTU is given at **Annexure-I**.

Implementing agencies shall enter into a concession agreement with CTU for the implementation of the above-mentioned schemes through the Regulated Tariff Mechanism (RTM).

This issues with the approval of Competent Authority.


(Partha Sarathi Das)
Sr. General Manager

Encl: as stated.

To:

1. The Chairman & Managing Director
Power Grid Corporation of India Ltd.,
Saudamini, Plot No. 2, Sector-29,
Gurgaon- 122 001

Copy to:

1. Shri Ishan Sharan
Chief Engineer & Member Secretary
(NCT)
Central Electricity Authority
Sewa Bhawan, R. K. Puram,
New Delhi-110 066.

2. Shri Goutam Ghosh
Director (Trans)
Ministry of Power,
Shram Shakti Bhawan,
Rafi Marg, New Delhi 110 001



Northern Region**1. Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS:**

Sl. No.	Scope of the Transmission Scheme	Capacity/km	Implementation timeframe
1.	Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6 th) at Fatehgarh-II PS (under Bus section-1 with cable/GIS duct connection at 220kV side).	<ul style="list-style-type: none"> • 500 MVA 400/220 kV ICT- 1no. • 400 kV ICT bay – 1 no. • 220 kV ICT bay – 1 no. (with cable/GIS duct connection) 	18 months from the issue of OM by CTUIL (Refer Note-a).
Total Estimated Cost:			INR 55.68 Crore

Note:

- a. Best efforts shall be carried out to implement the transmission scheme within 15 months from the issue of OM by CTUIL.

2. Augmentation of Transformation capacity (400/220kV) to cater to the N-1 contingency requirement at Bikaner PS:

Sl. No.	Scope of the Transmission Scheme	Capacity/km	Implementation timeframe
1	Augmentation of Transformation capacity by 1x500MVA, 400/220kV ICT (3 rd) at Bikaner PS.	<ul style="list-style-type: none"> • 500 MVA 400/220 kV ICT- 1no. • 400 kV ICT bay – 1 no. • 220 kV ICT bay – 1 no. 	15 months from the issue of OM by CTUIL.
Total Estimated Cost:			INR 45.52 Crore

3. Reactive power compensation on 400kV transmission lines in NR:

Sl. No.	Scope of the Transmission Scheme	Capacity/km	Implementation timeframe
1.	Installation of 50 MVAR switchable line reactor at Mainpuri end and fixed 50 MVAR line reactor at Ballabgarh end on Mainpuri- Ballabgarh 400 kV D/c line along with 450 ohm NGR at each ends (with NGR bypass arrangement for operation of line reactor as a bus reactor).	<ul style="list-style-type: none"> • 50 MVAR switchable line reactor along with associated bays and 450 ohm NGR at Mainpuri end - 2 Nos • 50 MVAR fixed line reactor along with associated 	15 months from the issue of OM by CTUIL



		equipments and 450-ohm NGR at Ballabgarh end -2 Nos.	
2.	Installation of 80 MVAR switchable line reactor at Allahabad end on Kanpur-Allahabad 400 kV S/c line along with 450 ohm NGR (with NGR bypass arrangement for operation of line reactor as a bus reactor).	• 80 MVAR switchable line reactor along with associated bay and 450 ohm NGR at Allahabad end -1 No.	15 months from the issue of OM by CTUIL
3.	Installation of 80 MVAR fixed line reactor at Bhiwadi end for uncompensated circuit of Agra-Bhiwadi 400 kV D/c line along with 450 Ohm NGR (with NGR bypass arrangement for operation of line reactor as a bus reactor).	• 80 MVAR fixed line reactor along with associated equipments and 450 Ohm NGR at Bhiwadi end - 1 No.	15 months from the issue of OM by CTUIL
Total Estimated Cost:			INR 76.10 Crore

Eastern Region

4. Eastern Region Expansion Scheme-XXXI (ERES-XXXI):

Sl. No.	Scope of the Transmission Scheme	Capacity/km	Implementation timeframe
1.	Installation of new 420kV, 1x63MVAR line reactor at Maithon-A end of Maithon-A – Kahalgaon-B ckt-1 400kV line along with new 500 Ohm NGR (with NGR bypass arrangement for operation of line reactor as a bus reactor)	<ul style="list-style-type: none"> • 63MVAR line reactor – 1 no. • 500 Ohm NGR along with line reactor including bypassing arrangement – 1 no. 	18 months from the issue of OM by CTUIL
	<i>Note: The existing 50MVAR line reactor along with NGR in this line at Maithon-A end may be decommissioned prior to commissioning of the above new 63MVAR line reactor and NGR.</i>		
2.	Installation of new 420kV, 1x125MVAR bus reactor along with associated bay at Jamshedpur (POWERGRID) S/s.	<ul style="list-style-type: none"> • 420kV, 125MVAR bus reactor – 1 no. • 400kV bus reactor bay – 1 no. 	
Total Estimated Cost:			INR 35.39 Crore



5. North Eastern Region Expansion Scheme-XIX (NERES-XIX):

Sl. No.	Scope of the Transmission Scheme	Capacity/km	Implementation timeframe
1.	Reconductoring of Loktak (NHPC) – Imphal (POWERGRID) 132kV S/c line with HTLS conductor with Ampacity of single HTLS as 800A (at nominal voltage) along with strengthening of associated structure in NHPC switchyard, if necessary.	36.6km	18 months from the issue of OM by CTUIL
2.	Replacement of existing CT of 600-400-200/1A at Loktak HEP end in Loktak – Imphal 132kV S/c line with rating commensurate with ampacity (800A) of HTLS conductor.	-	
Total Estimated Cost:			INR 15.60 Crore





DETAILED PROJECT REPORT FOR
AUGMENTATION OF TRANSFORMATION CAPACITY BY
1X500MVA 400/220KV ICT (6TH) AT FATEHGARH-II PS TO
CATER TO THE N-1 CONTINGENCY REQUIREMENT AT
FATEHGARH-II PS [TR-202228]

1.0 CONTEXT / BACKGROUND

The CEA transmission planning criteria, in section 16.2 mentions that “The ‘N-1’ criteria may not be applied to the immediate connectivity of wind/solar farms with the ISTS/Intra-STS grid, i.e., the line connecting the farm to the grid and the step-up transformers at the grid station.” The above criteria is also followed in planning of transmission systems for integration of renewable energy zones in Rajasthan.

POWERGRID had informed CTUIL that as per the current practice, N-1 criteria is not being implemented at planning stage of network with respect to step up transformers at RE pooling stations in Rajasthan (Bhadla-2, Fatehgarh-2 & Bikaner). Due to this, outage of any transformer at above stations will result in overloading of other transformers leading to cascaded tripping on overload/higher temperature and may adversely impact both RE generation as well as health of the transformers. In view of the above, POWERGRID requested CTUIL to implement additional 400/220kV ICTs at RE pooling stations to meet the N-1 criteria for smooth evacuation of power.

In 54th NRPC meeting held on 31.05.2022, POWERGRID highlighted the events of overloading of ICTs and cascaded tripping of generations at Bhadla during early stages of substation operation. POWERGRID informed that similar loading levels are observed on 5 nos. 500 MVA ICTs at Fatehgarh-II PS also. POWERGRID also stated that overloading of transformers, variations in their loading throughout the day and heating/cooling cycle affect life of transformers in the long run.

The above issues were deliberated in 8th Consultation meeting for Evolving Transmission Schemes in NR (CMETS-NR) held on 30.06.2022. POSOCO suggested that high RE capacity substations must have N-1 compliance at 400/220 kV level, i.e., at Fatehgarh-II (both sections)/Fatehgarh-III PS, Bhadla-II PS etc., for which revised transmission planning criteria must have suitable provisions. In addition, bus sectionalization at pooling station should have arrangements such that sharing on ICTs loading on each bus remain commensurate with underlying RE connected generation and ICTs on each bus should be N-1 compliant. NRPC agreed in the meeting that CTU may explore possibility of ensuring N-1 compliance at 400/220kV RE pooling stations with higher RE capacity on case-to-case basis and take up the ICT augmentation proposal for approval on priority.

Accordingly, requirement of 400/220kV ICTs at each section of Bhadla-2, Fatehgarh-2 & Bikaner PS to meet the N-1 compliance were deliberated. Details of discussion related to Fatehgarh-2 (Section 1) which is covered under subject DPR is as below:



Sl. No.	Substation (Section)	Transformation Capacity (MVA)	Stage-II Connectivity at 220 kV level (MW)	RE Capacity Commissioned (MW)	LTA Granted (MW)	Remarks
1.	Fatehgarh-II PS (Section 1) 6 th ICT of 500MVA	5x500	2490	1990	2490	It was stated in the meeting that balance 500MW capacity is expected to be commissioned in next 1-2 months. Accordingly, 400/220kV, 1x500MVA (6 th) ICT in Section-1 was agreed to be taken up on urgent basis to meet 'N-1' criteria

It was stated that all the above substations are closed for grant of Stage-II connectivity on new bays. Therefore, with implementation of additional ICTs at each 400/220 kV sections, N-1 compliance of above RE pooling stations can be achieved. Considering the security and reliability of the system, it was agreed to implement additional ICTs in each 400/220 kV sections of the RE pooling stations above in order to meet the N-1 criteria as well as to meet the evacuation requirement.

Subsequently, CTUIL vide OM Ref. No. C/CTU/AI/00/8th CCTP dated 14.10.2022 recommended Augmentation of Transformation Capacity by 1x500 MVA 400/220kV ICT(6th) at Fatehgarh-II PS for implementation by POWERGRID through RTM route.

The schematic of the proposed Transmission system is shown at **Exhibit-1.0**.

2.0 SCOPE OF WORK

Sl. No.	Scope of the Transmission Scheme	Capacity	Implementation Timeframe
1.	Augmentation of Transformation Capacity by 1x500 MVA 400/220kV ICT(6 th) at Fatehgarh-II PS (<i>under Bus section-1</i>)	400/220kV 500 MVA ICT: 1 no. <ul style="list-style-type: none"> 400 kV ICT bay – 1 no. 220 kV ICT bay – 1 no. (<i>with cable/GIS duct connection</i>) 	18 months from the issue of OM by CTUIL (<i>Refer Note-a</i>)

Note:

- Best efforts shall be carried out to implement the transmission scheme within 15 months from the issue of OM by CTUIL

3.0 PROJECT HIGHLIGHTS



a)	Project	Augmentation of Transformation Capacity by 1x500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS
b)	Location of the Project	Northern Region
c)	Project Cost	Rs. 56.41 crore at September 2022 price Level (including IDC of Rs. 2.13 crore)
d)	Monthly Fixed Charges	Rs. 103.68 Lakhs on Base Cost Rs. 110.88 Lakhs on Projected Completed Cost
e)	Commissioning schedule	The project is scheduled to be commissioned within 18 months of CTUIL OM, i.e., by 13.04.2024 . <i>(Best efforts shall be carried out to implement the transmission scheme within 15 months from the issue of OM by CTUIL)</i>

4.0 PROJECT APPROVAL BY CONSTITUENTS / SHARING OF TRANSMISSION CHARGES

4.1.1 The scheme was discussed in the 54th NRPC meeting held on 31.05.2022 and subsequently in the 8th CMETS-NR held on 30.06.2022. Copy of relevant extracts of minutes of the above meetings are enclosed at **Annexure - 8.0**.

CTUIL's OM dated October 14, 2022, in line with MoP's OM dated October 28, 2021, recommended the subject scope of works to be implemented by POWERGRID under RTM. As mentioned in the OM CTUIL has to enter into a concession agreement with the implementing agency (POWERGRID) for implementation of this scheme. (Copy of CTUIL OM is enclosed at **Annexure - 9.0**).

4.1.2 Since, the subject scheme does not involve any overhead line, prior approval of Government of India under Section 68(1) of Electricity Act, 2003 is not required.

4.2 SHARING OF TRANSMISSION CHARGES

The transmission charges for this project shall be shared by the beneficiaries in line with the Sharing Regulations notified by CERC from time to time.

5.0 PROJECT STRATEGY

The various elements of this transmission scheme have been evolved by CTUIL and other stakeholders keeping in view the present and future load requirements of Northern Region. The implementation of the scheme has been assigned to POWERGRID under RTM by CTUIL vide office memorandum dated 14.10.2022.

6.0 LEGAL FRAMEWORK



It is proposed to execute the above entire transmission scheme as per provisions contained in the Indian Electricity Act, 2003 and the rules made there-under and the Electricity (Supply) Act, 1910 and 1948, in so far as these are applicable.

7.0 EQUIPMENT SELECTION PHILOSOPHY

The system and equipment parameters are chosen keeping in view the present trend in technology. The bus bar materials and the clamps and connectors are chosen meeting the stringent international requirements so that there is least loss of energy in them. Other switchgears are also suitably selected and evaluated before award itself for most efficient operation from thermal and loss efficiency point of view. The energy thus saved is energy transmitted to the beneficiaries. This is a major step in energy conservation as the energy saved on account of losses is construed as energy generated.

8.0 TECHNOLOGY ISSUES

8.1 Salient features of 400/220 kV Substation Equipment and facilities

The design and specification of substation equipment are to be governed by the following factors:

8.1.1 Insulation Coordination

400/220 kV System would be designed to limit the switching overvoltage to 2.5 pu and power frequency overvoltage of 1.5 p.u. In case of 420 kV systems, the initial value of temporary overvoltage could be 2 p.u for 1-2 cycles. Consistent with these values and protective levels provided by lightning arrestors, the following insulation levels are proposed to be adopted for 400 kV and 220 kV systems:

	Property	400 kV	220 kV
a	Impulse withstand voltage for - Transformer and reactors - for Other Equipment	1300 kVP 1550 kVP	950 kVP 1050 kVP
b	Switching surge withstand voltage	1050 kVP	NA
c	Minimum creepage distance	10500 mm	6125 mm
d	Max. fault current	50 kA	50 kA
e	Duration of fault	1 Sec	1 Sec
f	Corona extinction voltage	320kV rms	

To control the steady state, transient and dynamic overvoltage to specified levels, compensation equipment shall be provided.

8.1.2 Switching Schemes



It is essential that the system should remain secured even under conditions of major equipment or bus-bar failure. Sub-stations being the main connection points have large influence on the security of the system as a whole. The selection of the bus switching scheme is governed by the various technical and other related factors. One & Half breaker bus scheme has been considered for 400 kV side and double main and transfer for 220 kV side due to their merits in terms of reliability, security, operational flexibility and ease of maintenance of equipment.

The following switching schemes have been considered in substation:

<u>Substation</u>	<u>400kV side</u>	<u>220kV side</u>
400/220kV Fatehgarh-2 PS	One & half breaker	Double Main and Transfer

8.1.3 400/220 kV Substation equipment:

The switchgear shall be designed and specified to withstand operating conditions and duty requirements. Further, switchgear for all voltage levels shall be generally of conventional type air insulated switchgear due to economy, subject to availability of suitable land.

8.1.3.1 Power Transformer

Power transformers shall conform to IEC:60076 / IS:2026 in general. The air core reactance shall be of the order of 20%. Tertiary windings shall be provided for large auto transformers, which shall be capable of being loaded to one third of transformer loading. Insulation level of tertiary winding shall not be less than maximum transferred surge from HV/MV winding to tertiary winding.

8.1.3.2 Circuit Breakers

Circuit breakers shall in general comply to IEC 62271-100 & IEC-62271-1 and shall be of SF6 Type. The rated break time shall not exceed 40ms for 400 kV and 60ms for 220 kV circuit breakers. Circuit breakers shall be provided with single phase and three phase auto reclosing. The short line fault capacity shall be same as the rated capacity and this is proposed to be achieved without use of opening resistors.

8.1.3.3 Isolators

The isolators shall comply to IEC 62271-102 & IEC-62271-1 in general. Isolators shall be horizontal/ double/ vertical break/ pantograph type keeping in view the bus switching schemes proposed. Isolators shall be motor operated. Earth switches are provided at various locations to facilitate maintenance. Main blades and earth blades shall be interlocked and interlock shall be fail safe type. All earth switches shall be motor operated type.

8.1.3.4 Current Transformers



Current Transformers shall comply with IEC 61869-1 & IEC 61869-2 in general. All ratios shall be obtained by secondary taps. They shall have six secondaries for 400 kV out of which four shall be used for protection and 2 shall be used for metering. For 220 kV system, it shall have 5 secondaries out of which four shall be used for protection and 1 shall be used for metering. The burden and knee point voltage shall be in accordance with the requirements of the system including possible feeds for telemetry. Accuracy class for protection core shall be PX and for metering core shall be 0.2S as per IEC 61869.

8.1.3.5 Capacitor Voltage Transformers

Voltage transformers shall comply with IEC 61869-1, 61869-5 & IEC 60358 in general. These shall have three secondaries out of which two shall be used for protection and one for metering. Accuracy class for protection core shall be 3 P and for metering core shall be 0.2. The voltage transformers on lines shall be suitable for Carrier Coupling. The Capacitance of CVT shall be 4400/6600/8800 pF depending on PLCC requirements.

8.1.3.6 Surge Arresters

Station class current limiting, heavy duty gapless type Surge arresters conforming to IEC 60099-4 in general shall be provided. The rated voltage of Surge arrester and other characteristics are chosen in accordance with system requirements. Surge arresters shall be provided near line entrances to achieve proper insulation coordination. These shall be fitted with pressure relief devices and diverting ports suitable for preventing shattering of insulator housing providing path for the flow of rated currents in the event of arrestors failure.

The switchgear shall be designed and specified to withstand operating conditions and duty requirements.

8.1.5 Substation Support facilities

Certain facilities required for operation & maintenance of substations as described below shall be provided in new substation and in existing substations, they have already been provided and would be extended, wherever required.

8.1.5.1 Firefighting System

Firefighting system in general conforms to fire insurance regulations of India. Extension of the existing firefighting system with both AC motor & diesel engine driven pumps is proposed. Automatic heat actuated emulsifying system is proposed for transformers. In addition, alarm system based on heat/smoke detectors are proposed to be installed at sensitive points in a substation. Further, adequate water hydrants and portable fire extinguishers shall be provided in the substations.

8.1.5.2 Lighting

Adequate normal & emergency AC & DC lighting shall be provided in the outdoor switchyard.

8.1.6 Protection & Control



The substations shall be provided with control, relaying & monitoring functions along with extension of existing substation automation system based on IEC 61850 protocol using fiber optic network.

The state of art protection system based on numerical technology has been provided to minimize the damage to equipment in the event of fault for Transformers, Reactors, Transmission lines and Bus bars. These protective relays are with self-diagnostic feature and conforming to latest IEC 61850 for communication purposes for communicating the detailed list of events recorded by these relays in the event of fault or any abnormal conditions. Normally all these relays are equipped with in built fault recorder which can record the analogue as well as digital information for analysis of fault.

Protective Relaying System

Protective relaying system is proposed to be provided for transmission lines, auto-transformers and bus bars to minimize the damage to the equipment in the event of faults and abnormal conditions, is dealt in this section.

Auto Transformers

Auto transformers shall be provided with the following protections:

- i) Differential protection
- ii) Restricted earth fault protection
- iii) Back-up impedance protection

Besides these, transformers shall also be provided with Bucholz relay, protection against oil and winding temperatures & pressure relief device.

Augmentation of Bus bar Protection

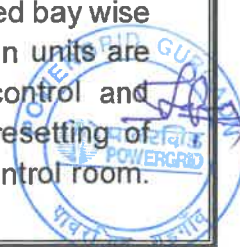
The high speed bus bar differential protection which is essential to minimize the damage and maintain system stability at the time of bus bar faults shall be provided for 400/220 kV buses. Existing Bus Bar Protection System is to be augmented under present Scope.

Local Breaker Back up Protection

This shall be provided for each of 400 kV breakers and will be connected to de-energize the affected stuck breaker from both sides.

Substation Automation System

The distributed architecture has been used for Substation Automation system where the controls are provided through bay control unit and bay control units are provided bay wise for voltage level 400kV and above. All bay control units as well as protection units are normally connected through an optical fiber high speed network. The control and monitoring of substation elements such as circuit breaker, disconnector, resetting of relays etc. are being done from Human Machine Interface (HMI) from the control room.



SAS is equipped with the facility of remote operation. By providing remote HMI and suitable communication link, the substation can be controlled from a remote location. The functions of control, annunciation, disturbance recording, event logging and measurement of electrical parameters shall be integrated in Substation Automation System. The Automation System shall be provided with the facility of communication and control for remote end operation.

For all the extension substations, state of art Substation Automation System (SAS) available in existing substation conforming to IEC-61850 has been extended/augmented for present scope of work.

8.1.8 Control Concept

All the EHV breakers in substation/switching stations shall be controlled and synchronized from the switchyard control room / remote control center. Each breaker would have two sets of trip circuits which would be connected to separately fused DC supplies for greater reliability. All the isolators shall have control from remote/local whereas the earth switches shall have local control only.

9.0 MANAGEMENT ARRANGEMENTS

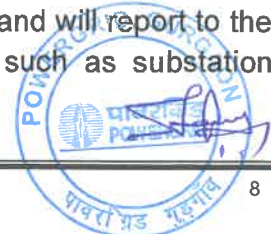
9.1 Organizational set up

In POWERGRID the 'Organizational Concept' has been given due importance and the basic structure of organization has been made with a view to achieve the following objectives:

- i) To group related functions together to have clearly defined 'Roles' for the relevant 'functional heads'.
- ii) To have well defined 'Responsibility & Authority' centers in the structure.
- iii) To have well defined 'communication channels' and optimum 'span of control' in the organization.
- iv) To have optimum manpower.
- v) To have decentralization of activities as far as possible.

At the first level in the organization, Corporate Centre will be planning, monitoring and controlling the objectives and activities of the organization. At the second level, the Regional HQs will be playing the role of controlling the activities in the regions and will report to Corporate Centre. In POWERGRID, 10 regions have been identified as NR-I, NR-II, NR-III, SR-I, SR-II, WR-I, WR-II, ER-I, ER-II & NER and these regions will be headed by GM/ED. The subject project falls under the purview of NR-I.

At the third level in the structure, the Substation Groups will be controlling the activities of the respective Substation and associated lines under that Group and will report to the Regional HQs. The Groups will consist of basic working units such as substation



Construction/maintenance, line construction/maintenance. The Groups will have both service and technical functions, to cater to the basic functional requirements.

9.1.1 Project Management

The project of transmission system will be planned, implemented, monitored and controlled through Integrated Project Management and Control System (IPMCS).

IPMCS uses PERT/CPM technique as the basic management tool. For effective project planning and review, three tier level of planning and review have been adopted.

Level-I:

Planning is done by the Corporate Monitoring Group, a central planning cell, which is in the form of an overall project schedule called the Master Network, for the project which forms the basis for all subsequent planning and monitoring of the activities. This covers broadly all the packages of project and indicates activities of engineering, contracts, manufacturing, erection and commissioning. The Master Network is prepared using computerized techniques which subsequently helps in comparing the actual progress of the project with the scheduled progress. This gives indication of the likely critical areas and helps in preventing the same, thereby resulting in smoother implementation. The Master Network also acts as a source for the planning to be done at Level - II & Level - III.

Level-II:

Planning is done package-wise and is worked out and finalised with the respective contractor/vendor during the pre-award stage. Level II networks are made within the milestones identified in the project Master Network (L-I).

Level-III:

Plans deal with elaborate schedules and weekly/monthly rolling plans which are prepared for activities of engineering, supply-(as the case may be) & field activities. These form the basis of monitoring by the various functions.

The system envisages monthly review of the level II programs with contractors and at field on a weekly basis. A site monthly progress report is sent to the head office having four sections, i.e.

- i) Project completion trend
- ii) Salient achievements for the month
- iii) Program for next month
- iv) Areas needing attention of top management



9.1.2 Project Implementation Review

As on 31st December 2022, POWERGRID operates about 1,73,791 ckm. of transmission lines and 270 Substations with a transformation capacity of about 4,93,042 MVA. POWERGRID has a team of dedicated experts in the field of substation and Transmission Line Engg. equipped with state-of-the-art technology, software capabilities and computer aided facilities for Planning, Design, Operation and Maintenance of transmission system. It has a well-established system of continuous feedback from the field and upgrades the system accordingly.

Based on the feedback as well as in pursuit to economize the cost and implementation period, its experts are vigorously pursuing the standardization of Transmission Line designs, substation/switchyard layouts, schemes, technical parameters of equipment, etc.

POWERGRID has developed a project monitoring system matching with the organization structure, complexity / intricacies involved in the project implementation and Management information system. The system calls for increasing details of planning in all facets of functioning such as engineering, contracts, site and corresponding levels of monitoring and control; for generating a management summary report to the top management. This management summary report highlights the project completion trends, actions being taken/to be taken for the attention of the top management on exceptional basis of critical areas.

Further, the monitoring system envisages a regular total project review called project review meeting (PRM). This review meeting is headed by the Regional in-charge with representation from all functions viz. Contracts, Engineering, Field, Personnel, Finance, Corporate Monitoring Group, etc. The participants discuss project critical, project interface problems and project completion trends, etc.

From the discussions held during the PRM emanates a status report and also an exception report put up to the Chief Executive and Directors which highlights extremely critical areas needing immediate attention and assistance required. The PRM is held at Corporate Centre once in three months. These discussions help in identifying the critical areas and seeking decisions for speedy project implementation.

10.0 MEANS OF FINANCE AND PROJECT BUDGET

10.1 Project Cost Estimate

The estimated cost of the project based on **September 2022 price level** is as follows:

		(Rs. in crores)
		Total cost
1.	Transmission System	54.28
2.	Interest during Construction	2.13
TOTAL		56.41



The abstract cost estimate for Substation portion are given at **ANNEXURE - 1.0**. The break-up of the cost estimate for civil works and substations are given at **ANNEXURES - 1.1 and 1.2** respectively.

10.2 Basis of Cost Estimate

The estimated cost of the project as on September 2022 price level works out to **Rs. 56.41 crores** including an IDC of **Rs. 2.13 crores**. Unit rates for 400/220kV ICTs and substation equipment have been taken from Schedule of Rates (which has been prepared based on the average of unit rates of latest LOAs/Bids and/or from Raw material prices) for September 2022 price level. Unit rates of few items with prices unavailable in SOR are considered equivalent of similar items in SOR and from recently awarded packages including such items.

The cost estimate is inclusive of GST as applicable for various equipment (supply & services portion). F&I @ 4% has been considered in the estimate for plain terrain.

10.3 Project Overheads

The following overheads have been charged on to the cost of the transmission system as a percentage of the equipment cost:

For Substations

i) Incidental Expenditure during Construction	10.75%
ii) Contingencies	3.00%

10.4 Funding arrangement

10.4.1 Phased Fund Requirement

The anticipated year wise fund requirement for the project including interest during construction is given below:

YEAR	TOTAL (Rs in Crores)
2022 – 2023	10.932
2023 – 2024	37.192
2024 – 2025	8.281
Total	56.41

10.4.2 Mode of Financing

The project is proposed to be funded through POWERGRID's Internal Resources (IR) and through domestic borrowings/bonds/External Commercial borrowings. The equity component (**30%**) is proposed to be met through the Internal Resources (IR) and the loan component (**70%**) through domestic borrowings/bonds/External Commercial borrowings.

10.5 Interest during Construction

Based on the assumption that the project will be financed from loan and equity in the ratio of **70:30** and the equity component being released simultaneously along with the loan component, the interest during construction works out to **Rs. 2.13 crores**. The interest rate for the loan amount has been considered @ **9.70%** for domestic loan. The details of calculation are furnished in **ANNEXURE - 4.0**.

The interest during construction would however be based on the actual financial structure of the project and applicable terms of interest on loan(s), etc.

10.6 Monthly Fixed Charges

Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 have been referred for calculation of monthly fixed charges. Considering:

- i. Rate of interest on Domestic Loan @ 9.70% p.a.;
- ii. Return on equity @ 15.5%;
- iii. Depreciation @ 0% for land, @ 5.28% for substations;
- iv. O&M charges @ 38.21 lakhs/bay for 400 kV Bay, @ ₹ 26.75 lakhs/bay for 220 kV bays and ₹ 0.43 lakhs/MVA for 400 kV Transformers (escalating O&M rates of 2023-24 by 3.51%);
- v. Debt:Equity ratio 70:30;
- vi. Interest on working capital @ 10.50%;

The tentative monthly fixed charges work out as ₹ **103.68 Lakh** on Base Cost and ₹ **110.88 Lakh** on projected completed cost (**ANNEXURE - 3.0**).

10.7 Completion Cost

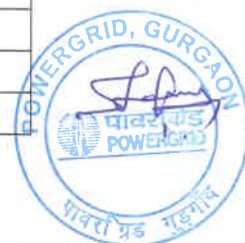
The completion cost of the project is expected to be **Rs. 61.52 crores** including IDC of **Rs. 2.26 crores**. The above cost has been worked out based on the average movement of WPI (80% weightage) and CPI (20% weightage) for the preceding 12 month period as per guidelines dated 06.08.1997. Details of calculation are enclosed at **ANNEXURE - 5.0**. The abstract cost estimate for completed cost is enclosed at **ANNEXURE - 1.0a**. The phased fund requirement and calculation for IDC for completed cost are enclosed at **ANNEXURES - 2.0a and 4.0a** respectively.

10.8 Internal rate of returns (IRR)

The Project IRR, Equity IRR and Economic IRR on Projected Completed Cost have been calculated for the project and the same is tabulated below:

	For Completed Cost
Project IRR	12.07%
Equity IRR	18.25%
Economic IRR	14.51%

The details of calculation are furnished in **ANNEXURE - 7.0**.



11.0 TIME FRAME

The project is scheduled to be commissioned within 18 months from the date of CTUIL OM, i.e. by **13.04.2024**.

Implementation schedule is given at **EXHIBIT-3.0**.

12.0 RISK ANALYSIS

Revenue Risk

The capital cost of the transmission system comprises of i) an equity component and ii) a loan component. This is recovered through the annual transmission charges consisting of return required for the equity, an interest for the loan component together with the depreciation charges, the O & M charges and interest on working capital from the beneficiaries as per CERC Notifications. In addition to annual charges Income Tax, FERV and incentives, etc. as per notification would also be payable. Transmission charges payable have been worked out presently based CERC Tariff Regulations, 2019 and same shall be as per the applicable tariff regulations as issued by CERC from time to time during useful life of the assets.

Regulatory Risk

The transmission charges for this project shall be shared by the beneficiaries in line with the Sharing Regulations notified by CERC from time to time. CERC (Sharing of inter-State Transmission charges and losses) Regulations, 2020 came into force w.e.f. 01.11.2020. Under the Sharing Regulations 2020 signing of any TSA is not envisaged. However, relevant features of TSA, RSA and BCD Procedure have been included in the Regulations itself. Transmission Service Agreements and Revenue Sharing Agreements as on date of commencement of these Regulations shall be saved till expiry of the Agreements to the extent they are not in conflict with provisions of the 2020 Sharing Regulations as and when it becomes effective.

Environmental Risk

Transmission system projects are environmentally friendly and do not involve any disposal of solid effluents and hazardous substance in land, air and water.

Legal / Contractual Risks

The procurement practices of POWERGRID are in line with best practices followed internationally. Further, requisite due diligence is carried out prior to award of contracts which inter-alia includes assessment of capacity and capability of bidders to perform the contract, thereby mitigating contractual risks. In the unlikely event of such risk, adequate provisions such as Dispute Resolution, Risk & Cost procurement, etc. are in built in the Bidding/Contract Document to deal with the same.



The legal framework governing the contracts in India is well established and finally in place. As such, there is minimal probability of any legal risk.

Project Management Risks

POWERGRID holds vast experience in the area of construction of 400kV and 765 kV long Inter-state Transmission lines and associated substations. It has commissioned numerous 400 kV and 765 kV Transmission Lines and Substation projects successfully which are under operation.

POWERGRID has developed and implemented systems & procedures aligned with Integrated Management System. The Critical projects are monitored even more closely. As such, with a dedicated and experienced pool of manpower and application of IMS in implementation of its projects, POWERGRID makes every endeavor to achieve the target making probability of impact of Project Management Risks to minimal.

13.0 PAST RECORD OF SUCCESSFUL PROJECT IMPLEMENTATION

The above transmission system has been evolved, carrying out detailed studies by using latest available power system analysis software (PSS/E), and the proposed system is considered to be adequate to transfer power to the respective beneficiaries with reliability and security. Regarding achieving its objective in the stipulated time frame, it is to mention that POWERGRID has in-house expertise in all specialized areas of transmission with systems upto 800KV AC, ± 500 KV HVDC, Gas Insulated Sub-Stations, Static VAR Compensation, Series Capacitors, FACTS (Flexible AC Transmission System), Controlled Shunt reactors etc.

POWERGRID, since its formation has commissioned many large size and difficult transmission projects. Majority of such projects have been completed on or ahead of schedule.

As on 31st December 2022, POWERGRID operates about 1,73,791 ckm. of transmission lines and 270 Substations with a transformation capacity of about 4,93,042 MVA. POWERGRID has maintained the transmission system's availability at over 99% consistently.

In recognition of POWERGRID's excellence in areas of its operations as above, POWERGRID has been rated as "Excellent" many times since 1993-94 in achieving the MoU targets with Ministry of Power. POWERGRID is also a recipient of Prime Minister's MoU Award consecutively for many years for being amongst top ten PSUs.

14.0 SUSTAINABILITY

14.1 System Design Philosophy

The power evacuation system is designed in the most optimum manner such that losses in the system are minimal. The system and equipment parameters are chosen according



to the present trends in technology, the conductors available are such that the losses in them due to internal resistance as well as due to external effects such as corona and RIV are bare minimum. The busbar materials and the clamps and connectors are chosen after meeting the stringent international requirements so that there is least loss of energy in them. The transformers, reactors and other switchgear are also similarly selected and evaluated before award itself for most efficient operation from thermal loss and efficiency.

14.2 System Operation Philosophy

The power flow in a particular line varies due to demand variation, failure of equipment, line faults, etc. For the system to be stable and to use optimised resources, it is very important to record the power flow at each and every time. This necessitates the monitoring of operation of the system on a three shift basis.

14.3 System Maintenance Philosophy

The maintenance management system in vogue in POWERGRID aims at keeping the system under stable conditions while ensuring minimum maintenance cost and safety of equipment and personnel. The maintenance management schedule detailed work specification covering all maintenance jobs permit to work system, long term maintenance planning meeting for about 30 minutes for finalizing maintenance schedule for next 24 hours and resolution of interface problems between departments. These meetings are supplemented by meeting of HODs for one hour on alternate days to accelerate the decision making process and to lay down the priorities and guidelines for maintenance work during next 72 hours.

14.3.1 Spare parts Management System

The primary objective of spare part management system will be to ensure timely availability of proper spare parts for efficient maintenance of the substations and lines without excessive build-up on non-moving and slow moving inventory. The spare parts management system for this project will cover the following areas:

- a) Proper codification of all spares and consumables
- b) Spare parts indenting and procurement policy
- c) Ordering of critical mandatory and recommended spares
- d) Judicious fixation of inventory levels and ordering levels for spare parts based on our experience in other projects.
- e) Development of more than one source wherever practicable.

14.3.2 Training of personnel

The expertise available with the country is adequate to cover maintenance of Transmission Line and sub-station EHV equipment, etc. Also, available technical expertise within POWERGRID is adequate to cover operation and maintenance requirements of equipment. Hence, training in these areas can be arranged by POWERGRID's training facility with the help of training officers, equipment suppliers and consultants, site commissioning personnel as well as POWERGRID's own specialists.



14.3.3 O&M Manuals

- a) Adequate O & M manuals will be distributed to all concerned as per the policy of the company.
- b) O & M manuals will be available to all concerned prior to commissioning of substations and transmission lines to avoid problems in preparation of commissioning documents as well as proper installation & commissioning of equipment.



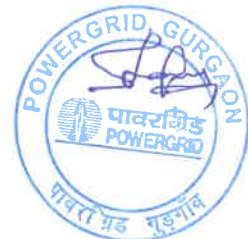
Note No. #1

Project: TR-202228

Attachment: Exhibit 3 Imp Sch DPR 6th ICT at Fatehgarh.pdf

Hi	Description	(B)EISchST	(B)EISchFin	2023												2024											
				4				1				2				3				4				1			
				Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
<input type="checkbox"/>	Aug. Trans. Cap. Fatehgarh-II 6th 400kV																										
<input type="checkbox"/>	Implementation Schedule for DPR	14.10.2022	13.04.2024																								
<input type="checkbox"/>	Project Approval	14.10.2022	06.12.2022																								
<input type="checkbox"/>	Project Start (CTU OM)	14.10.2022	14.10.2022																								
<input type="checkbox"/>	Preparation & vetting of DPR	15.10.2022	12.11.2022																								
<input type="checkbox"/>	DPR cum Investment Approval	14.11.2022	06.12.2022																								
<input type="checkbox"/>	6th 400/220kV ICT at Fatehgarh-2 (Sec-1)	20.10.2022	13.04.2024																								
<input type="checkbox"/>	Tendering and Award	20.10.2022	09.01.2023																								
<input type="checkbox"/>	Engg. Supplies Civil works, Erec T&C	10.01.2023	13.04.2024																								

1.1 Completion Schedule: 18 months from CTU OM. (Best effort to be made to complete within 15 months)





पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

संदर्भ सं. : उ.क्षे.-1/वाणिज्य/DOCO

दिनांक: 30.04.2025

वाणिज्यिक प्रचालन की तिथि की अधिसूचना (DOCO)

"AUGMENTATION OF TRANSFORMATION CAPACITY BY 1X500MVA 400/220KV ICT (6TH) AT FATEHGARH-II PS TO CATER TO THE N-1 CONTINGENCY REQUIREMENT AT FATEHGARH-II PS" in Northern Region

परियोजना के अंतर्गत निम्न एसेट के सफल परीक्षण प्रचालन के फलस्वरूप, इसे सी ई आर सी (टैरिफ के नियम और शर्तों) के अधिनियम 2024 के खंड 2 के अनुच्छेद 5(1) के अंतर्गत दिनांक 14.02.2025 को 00.00 बजे से वाणिज्यिक प्रचालन के लिए अधिसूचित किया जाता है।

Name of the Asset:

500MVA ICT AT FATEHGARH S/S ALONGWITH ASSOCIATED BAYS


(अभिनव वर्मा) 30/4/25

राजस्थान परियोजना प्रभारी

वितरण :

1. सदस्य सचिव, एन.आर.पी.सी.
2. लाभार्थी- संलग्न सूची के अनुसार

राजस्थान प्रोजेक्ट्स, चतुर्थ तल, आईआईएल हाउस, शिप्रा पथ, मानसरोवर, जयपुर-302020, राजस्थान
Rajasthan Projects, 4th Floor, REIL House, Shipra Path, Mansarovar, Jaipur-302020, Rajasthan
केन्द्रीय कार्यालय : "सादामिनी", प्लॉट नं.: 2, सेक्टर-29, गुरुग्राम - 122001, (हरियाणा), दूरभाष: 0124-2571700-719
Corporate Office : "Saudamini", Plot no. 2, Sector-29, Gurugram-122001, (Haryana) Tel.: 0124-2571700-719
पंजीकृत कार्यालय : बी-9, कुतब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016, सीआइएन: L40101DL1989GOI038121
Registered Office: B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016, CIN: L40101DL1989GOI038121
Website : <https://www.powergrid.in>



भारत सरकार/Govt. of India
विद्युत मंत्रालय/Ministry of Power
केन्द्रीय विद्युत प्राधिकरण/Central Electricity Authority
क्षेत्रीय निरीक्षणालय संगठन (उत्तर)/Regional Inspectorial Organization (North)
07वां तल, सीईए, सेवा भवन, आर.के.पुरम सेक्टर-1, नई दिल्ली-110066
07th floor, CEA, Sewa Bhawan, R.K.Puram Sector-1, New Delhi-110066

NRIO/POWERGRID Fatehgarh/Raj/2025/078

Dated:25.01.2025

Approval for Energisation

(Under Regulation 45 of CEA (Measures relating to Safety and Electric Supply), Regulations, 2023)

To,

M/s POWERGRID CORPORATION OF INDIA LIMITED,
765/400/220KV FATEHGARH-II SUBSTATION,
JAISALMER, Rajasthan

Subject: Approval for Energization of electrical installations as mentioned in List of Equipment in application of M/s POWERGRID CORPORATION OF INDIA LIMITED, under Regulation 45 of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023

Ref: (1) Online Application A/2025/15153 dated 10.12.2024.
(2) NRIO/POWERGRID Fatehgarh/Raj/2024/715 Order dated 27.12.2024
(3) Compliance report uploaded on portal on 20.01.2025 and 24.01.2025

Whereas the inspection of **electrical installations as mentioned in List of Equipment in application of M/s POWERGRID CORPORATION OF INDIA LIMITED** was carried out by the undersigned on 23.12.2024 under Regulation 45 of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023.

Approval for Energisation of the said Electrical installations/apparatus (Details being enclosed as **Annexure**) is hereby accorded subject to following conditions:

1. M/s POWERGRID CORPORATION OF INDIA LIMITED shall ensure to have all other requisite clearances/NOCs from Government and Local bodies, as applicable, before Energisation.
2. Adherence to relevant provisions of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2023 shall be ensured by M/s POWERGRID CORPORATION OF INDIA LIMITED for safety during operation and maintenance.

The first periodic inspection of above installation under Regulation 32 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2023 shall be carried out **at an interval not exceeding 05 years** from the date of this inspection. The application shall be filed by the applicant **at least 6 months in advance** so that compliance and final approval is granted on time. This periodicity is subject to change by government notification.



ANNEXURE

List of equipment

400/220kV, 500MVA ICT (6th) (for N-1 criteria under Bus Section-I) and Bay Nos: 407, 408, 409 and 206

Description of Equipment	Rating	Manufacturer	Sr. No. of Equipment
400/220KV, 500MVA ICT (6th) (for N-1 criteria under Bus Section-I):			
Auto Transformer (400/220kV ICT (6th))	500MVA, 400/√3 / 220/√3 / 33kV	TOSHIBA	90796A06
Bay 407 (400kV side Main bay of ICT (6th)):			
CB	420 kV, 4000 A	SIEMENS LTD.	39646
CT	420 kV, 3000 A	CG Power and Industrial Solution Limited	748348 748349 748350
LA	336kV, 20kA	CG Power and Industrial Solution Limited	40102615 40102612 40102613
Isolator	420 kV, 3150 A	Switchgears & Structural PVT. LTD.	1839-112-11 1839-112-12 1839-112-13
Bay 408 (400kV side Tie bay of ICT (6th) and Future bay):			
CB	420 kV, 4000 A	SIEMENS LTD.	39647
CT	420 kV, 3000 A	CG Power and Industrial Solution Limited	748351 748352 748353
Isolator	420 kV, 3150 A	Switchgears & Structural PVT. LTD.	1839-112-10 1839-112-08
Bay 409 (400kV side Future bay (Bus isolator only)):			
Isolator	420 kV, 3150 A	Switchgears & Structural PVT. LTD.	1839-112-09
Bay 206 (220kV side Main bay of ICT (6th)):			
CB	245 kV, 3150 A	SIEMENS LTD.	39655
CT	245 kV, 1600 A	CG Power and Industrial Solution Limited	748376 748375 748374
LA	216 kV, 10kA	CG Power and Industrial Solution Limited	40102620 40102621 40102622
Isolator	245 kV, 1600 A	Switchgears & Structural PVT. LTD.	1839-112-24 1839-112-29 1839-112-37 1839-112-38
GIS Bus duct with SF6/Air Bushings	245 kV, 1600 A	SIEMENS LTD.	2GB1224 to 2GB1229

57. 32224131
09/12/24
M. ESWARA DHAS
CHIEF MANAGER
STATEHARH-II SIS





पावरग्रिड
POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

Ref: FTGH2/PG/NRLDC/

Date: 06.02.2025

To

- 1) Chairman & Managing Director, Rajasthan Rajya Vidyut Prasaran Nigam Limited, Vidyut Bhawan, Janpath, Jaipur- 302005
- 2) Chief Engineer (LD), State Load Dispatch Centre, Rajasthan Rajya Vidyut Prasaran Nigam Ltd., Ajmer Road, Heerapura, Jaipur-302024.
- 3) General Manager (Planning – NR), Central Transmission Utility of India Limited

Subject: Trial Run notice for:

- 1) 1x500MVA, 400/220KV ICT (6th), under Bus Section-I to cater N-1 contingency requirement.
- 2) 400kV side bays: 407 (main bay), 408 (tie bay) & 409 (Half dia – bus isolator only)
- 3) 220kV side bay: 206

In reference to above cited letter reference, it is being brought to your kind attention that above mentioned elements & bays (1x500MVA, 400/220KV ICT (6th), under Bus Section-I to cater N-1 contingency requirement) along with 400kV side bays: 407 (main bay), 408 (tie bay) & 409 (Half dia – bus isolator only) and 220kV side bay: 206) at Fatehgarh-2 S/s are ready for charging.

Hence, a trial run of the same elements & bays shall be carried out on or before 13th February 2025.

This is for your kind information please.

Thanking You.

Yours faithfully


(Lokesh Kr Singh Chundawat)
DGM, Fatehgarh-2 S/S

CC:

- 1) ED, NRLDC, New Delhi
- 2) ED, NR-1-For Kind information please
- 3) CGM-AM, Group-II Bikaner

765/400/220 KV SUBSTATION, BHANIYANA ROAD, SANWTA (DEVIKOT), JAISALMER - 345027.

765/400/220 के.वी सबस्टेशन, भनियाणा रोड, सांवता (देवीकोट), जैसलमेर -345027

Corpotate office: "Saudamini" Plot No- 2, Sector 29, Gurugram - 122001, Haryana Tel-0124-2571700-719

कॉर्पोरेट कार्यालय- "सौदामिनी" प्लॉट नंबर 2, सेक्टर 29, गुरुग्राम-122001, हरियाणा दूरभाष-0124-2571700-719

Registered Office: B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110016 Tel-011-26560112, 26564812, 26564892

पंजीकृत कार्यालय: बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016 दूरभाष-011-560112, 26564812, 26564892

Website : www.powergridindia.com

Approval for charging and trial operation/run

NRLDC

Approval no: NRLDC/SO-1/2025/1194

To The Head,
POWERGRID,

B-9, Qutab Institutional Area Rd, NRPC Colony, Block B, Katwaria Sarai, New Delhi, Delhi 110019,

Sub: Charging and trial run of Augmentation of Transformation capacity by 1x500MVA 400/220KV ICT(10th) at Fatehgarh_2 PG to cater N-1 contingency requirement at Fatehgarh_2 PG(under Bus section-1 with GIS duct connection at 220KV side) along with associated Bays (Main Bay 407, Tie bay 408, Future bay 409(isolate only) & 200KV side bay 206). Case ID: 1119295 Provisional approval

Ref: 1) Your application dated - 26 Dec 2024 13:02, 19 Dec 2024 16:04 in Format-I

2) NRLDC response dated - 27 Dec 2024 10:55, 24 Dec 2024 10:27 in Format-II

3) Your request and details forwarded on dated - 30 Jan 2025 19:09, 27 Jan 2025 17:23 in Format III, IIIA, IIIC, and IIID

4) CEA e-Gen Registration No: NA

Madam/Sir,

The above documents have been examined by NRLDC and permission for charging of

1. 220kV Main Bay 206 of 400/220KV 500MVA ICT(10th) at Fatehgarh_II(PG)
2. 400kV Main Bay 409 of Future(Isolator only) at Fatehgarh_II(PG)
3. 400kV Tie Bay 408 of 400/220KV 500MVA ICT(10th) and Future at Fatehgarh_II(PG)
4. 400kV Main Bay 407 of 400/220KV 500MVA ICT(10th) at Fatehgarh_II(PG)
5. 400/220/33kV, 500 MVA (ICT(10th) at Fatehgarh_2 PG to cater N-1 contingency requirement under Bus section-1) MVA, 3-Phase, TOSHIBA, ICT - 11 at Fatehgarh_II(PG)

on or after 31 Jan 2025 14:45 is hereby accorded. **Approval is subjected to the availability of real-time data, grid conditions, and validity of safety clearance(not later than six months from the date of issuance of safety clearance).**

shall demonstrate the trial run as per the given notice and also take code from control room before commence for trial run. This approval is provisional and in the intervening period, if any of the conditions given in the undertakings submitted by you are found to be violated, the approval stands canceled. Kindly obtain a real time code from the NRLDC for each element switching as well as commencement of trial operation.

Thanking you,

Date : 31 Jan 2025 14:45

Kamaldeep

कमलदीप/KA/Manager
उप महाप्रबन्धक / Dy. Regional Load Dispatch Centre
ग्रिड कंट्रोलर ऑफ़ इंडिया लिमिटेड (ग्रिड-इंडिया)
GRID CONTROLLER OF INDIA LIMITED (GRID-INDIA)
(पूर्वतन Power System Operation Corporation Limited (PSOCO))
18/ए, शाहीद जवाहर सिंह मार्ग, कटवारीया सराय, नई दिल्ली-16
18/A, Shaheed Jit Singh Marg, Katwaria Sarai, New Delhi-16



Signature

Name: Pradeep kr verma

Designation: Dy Manager

NRLDC





ग्रिड-इंडिया
GRID-INDIA

ग्रिड कंट्रोलर ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
GRID CONTROLLER OF INDIA LIMITED

(A Government of India Enterprise)
[formerly Power System Operation Corporation Limited (POSOCO)]

उत्तर क्षेत्रीय भार प्रेषण केन्द्र / Northern Regional Load Despatch Centre



कार्यालय: 18-ए, शाहीद जेत सिंह सनसनवाल मार्ग, कटवारिया सराय, नई दिल्ली - 110016
Office : 18-A, Shaheed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi-110016
CIN : U40105DL2009GOI188682, Website : www.nrlcdc.in, E-mail : nrlcdc@grid-india.in, Tel.: 011- 26854015, 40224603

Certificate Number: GRID-INDIA/NRLDC/SO/622

Date: 28-04-2025

Certificate of successful Trial Run (with electrical load) as per Clause 25 of CERC (IEGC), 2023

Certificate of completion of Trial Operation of 400/220/33kV, 500 MVA, ICT - 10 at Fatehgarh_II(PG) along with associated Bays (400kV Main Bay-407 & Tie bay-408 and 200kV Main Bay-206).

Reference:

1. POWERGRID Communication dated 19 Dec 2024 16:04, 26 Dec 2024 13:02, vide Format - I and 27 Jan 2025 17:23, 30 Jan 2025 19:09, vide Format - III regarding the submission of pre charging documents for -
i. 220kV Main Bay 206 of 400/220KV 500MVA ICT(10th) at Fatehgarh_II(PG)
ii. 400kV Main Bay 409 of Future(Isolator only) at Fatehgarh_II(PG)
iii. 400kV Tie Bay 408 of 400/220KV 500MVA ICT(10th) and Future at Fatehgarh_II(PG)
iv. 400kV Main Bay 407 of 400/220KV 500MVA ICT(10th) at Fatehgarh_II(PG)
v. 400/220/33kV, 500 MVA (cater N-1 contingency requirement under Bus section-1) MVA, 3-Phase, TOSHIBA, ICT -10 at Fatehgarh_II(PG)
2. NRLDC Acknowledgement dated 27 Dec 2024 10:55 vide Format - II and Provisional Approval dated 31 Jan 2025 15:01 vide Format - IV.
3. Real time code issued by NRLDC on request of POWERGRID Real Time Code No-NR2502-3271,3272,3273,3989.
4. POWERGRID , Communication dated 15 Feb 2025 17:03, 24 Apr 2025 16:05, vide Format - V regarding the submission of post charging documents.
5. No objections received from Beneficiary(ies).

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

Name of the Transmission Asset:	400/220/33kV, 500 MVA, ICT - 10 at Fatehgarh_II(PG) along with associated Bays (400kV Main Bay-407 & Tie bay-408 and 200kV Main Bay-206).
Owner of the Transmission Asset:	POWERGRID
Date and Time of Energization for commencement of successful trial run operation	13-02-2025 - 00:00Hrs.
Date/Time of completion of successful trial run operation	14-02-2025 - 00:00Hrs.

Note:

1. There is one and half-breaker scheme at HV-400kV Side of ICT-10 at Fatehgarh_II(PG) sub-stations, and the complete dia is in charged condition.

This certificate is being issued in accordance with Regulation 25 (1) and 25(2) of CERC (Indian Electricity Grid Code) Regulations, 2023 and amendments thereof to certify successful trial run of power system element with electrical load.

Manoj Kumar Agrawal
Executive Director, NRLDC



Place : New Delhi

Copy to :

I. Head-POWERGRID, CPCC-1.

II. Member Secretary, NRPC, New Delhi.

III. Executive Director, NLDC, New Delhi.

IV. Beneficiary(ies).

पंजीकृत कार्यालय : प्रथम तल, बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली - 110016
Registered Office : First Floor, B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016



Certificate as per
CERC (Indian Electricity Grid Code) Regulations 2023
(For Inter State Transmission System)

It is to certify that following asset under Transmission System namely
**"AUGMENTATION OF TRANSFORMATION CAPACITY BY 1X500MVA
400/220KV ICT (6TH) AT FATEHGARH-II PS TO CATER TO THE N-1
CONTINGENCY REQUIREMENT AT FATEHGARH-II PS"** in Northern Region
conforms to the CEA Technical Standards for Construction, CEA Technical
Standards for Connectivity, CEA Technical Standards for Communication, Central
Electricity Authority (Measures relating to Safety and Electricity Supply)
Regulations, 2010 and Central Electricity Regulatory Commission (Indian Electricity
Grid Code) Regulations, 2023 and are capable of operation to their full capacity as
per requirements for declaration of commercial operation as per following details:

Name of the Asset	Date/Time
500MVA ICT at Fatehgarh S/s along with associated Bays	14.02.2025/00:00


(R. K. Tyagi)

Chairman and Managing Director



केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं. 2, सेक्टर-29, गुरुग्राम-122001, (हरियाणा), दूरभाष : 0124-2571700-719
Corporate Office : "Saudamini", Plot No. 2, Sector-29, Gurugram-122001, (Haryana) Tel. : 0124-2571700-719

पंजीकृत कार्यालय : बी-9, कुतुब इंस्टीट्यूशनल एरिया, कटवारिया सराय, नई दिल्ली-110016. 011-26560112, 26564812, 26564812, 26564892, मोबाइल : L40101DL1989GOI038121
Registered Office : B-9, Qutab Institution Area, Katwaria Sarai, New Delhi-110016. Tel : 011-26560112, 26564812, 26564812, 26564892, CIN : L40101DL1989GOI038121
Website : www.powergridindia.com



भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

सं.:उ.क्षे.वि.स./प्रचालन/106/01/2024/533-574


दिनांक: 13.09.2024

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप- समिति की 223वीं बैठक में स्वीकृत आऊटेज कार्यक्रम की सूची।

Subject: Outage programme approved in the 223rd OCC Meeting.

विद्युत् उत्पादन कंपनियों व पारेषण लाइसेंस धारकों द्वारा उत्पादन इकाइयों व पारेषण तंत्र के प्रस्तावित आऊटेज कार्यक्रमों को दिनांक 12.09.2024 में आयोजित प्रचालन समन्वय उप- समिति की 223 वीं बैठक में चर्चा करने के पश्चात आऊटेज कार्यक्रम की स्वीकृत सूची को उत्तर क्षेत्रीय विद्युत समिति के वेब पोर्टल पर उपलब्ध किया गया है। सभी आऊटेज कार्यक्रम संभावित हैं एवं वास्तविक काल में ग्रिड की स्थिति के अनुरूप प्रभावी होंगे। किसी प्रकार की त्रुटि होने पर दो कार्य दिवसों के भीतर हमें सूचित करने का कष्ट करें।

The outage programme of Generating Units and Transmission Lines proposed by Generating Companies and Transmission Licensees were discussed in the 223rd OCC meeting held on 12.09.2024 and the approved list of outages program has been uploaded on NRPC web portal. All outage programmes are approved tentatively subject to real time grid conditions. Discrepancy, if any may kindly be intimated within two working days.


(डॉ. के. सी. सिंह)

अधीक्षण अभियंता (प्रचालन)

सेवा में,

प्रचालन समन्वय उप- समिति के सभी सदस्य।



APPROVED OUTAGE PROGRAM OF 223rd OCC

Sr No	Reference Number	OCC Number	Name of Requesting Agency	Element Type	Element Name	Owner	Daily/Continuous	Reason	Requested From Date	Requested To Date	Requested To Time	Requester Remarks	Request Type	Shutdown Status	Approved From Date	Approved From Time	Approved To Date	Approved To Time	OCC Remarks
1	RQ191663	OCC_223	ntpcos_sd	GENERATING UNIT	88.71 MW ANTA GPS - UNIT 1	NTPC	C	Minor OH based on EOH	15/Oct/2024 00:00	23/Oct/2024 23:59	23:59	Minor OH from 16.09.2024 to 23.09.2024 is to be taken	PLANNED	Approved	18-Sep-24	00:00	25-Sep-24	23:59	
2	RQ191662	OCC_223	ntpcos_sd	GENERATING UNIT	88.71 MW ANTA GPS - UNIT 2	NTPC	C	Major Overhauling based on EOH	08/Oct/2024 08:00	07/Nov/2024 23:59	23:59		PLANNED	Approved	08-Oct-24	00:00	07-Nov-24	23:59	
3	RQ190556	OCC_223	ntpcncr_sd	GENERATING UNIT	88.71 MW ANTA GPS - UNIT 2	NTPC	C	GT82 Major Overhauling	08/Oct/2024 00:00	07/Nov/2024 23:59	23:59	Outage	PLANNED	Rejected					Duplicate entry
4	RQ192062	OCC_223	ntpcos_sd	GENERATING UNIT	200 MW SINGRAULI STPS - UNIT 5	NTPC	C	for boiler license renewal & to attend boiler (flue gas duct leakage)	18/Oct/2024 00:00	21/Oct/2024 23:59	23:59	Outage is to be taken from 18.09.2024 to 21.09.2024, but not being able to apply for said date in this portal	PLANNED	Approved	18-Sep-24	00:00	21-Sep-24	23:59	May be allowed for license renewal
5	RQ191296	OCC_223	cpcc1_sd	HVDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-2	POWER GRID	C	Modification in DCCT to avoid protection mal-operation and upgradation of control software	15/Oct/2024 08:00	20/Oct/2024 18:00	18:00		PLANNED	Rejected					Already facilitated in Sep
6	RQ191295	OCC_223	cpcc1_sd	HVDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-1	POWER GRID	C	Modification in DCCT to avoid protection mal-operation and upgradation of control software	15/Oct/2024 08:00	20/Oct/2024 18:00	18:00		PLANNED	Rejected					Already facilitated in Sep
7	RQ191297	OCC_223	cpcc1_sd	HVDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-3	POWER GRID	C	Modification in DCCT to avoid protection mal-operation and upgradation of control software	15/Oct/2024 08:00	20/Oct/2024 18:00	18:00		PLANNED	Rejected					Already facilitated in Sep
8	RQ191298	OCC_223	cpcc1_sd	HVDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-4	POWER GRID	C	Modification in DCCT to avoid protection mal-operation and upgradation of control software	15/Oct/2024 08:00	20/Oct/2024 18:00	18:00		PLANNED	Rejected					Already facilitated in Sep
9	RQ191291	OCC_223	cpcc1_sd	HVDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-3	POWER GRID	C	Modification in DCCT to avoid protection mal-operation and upgradation of control software	11/Oct/2024 08:00	15/Oct/2024 18:00	18:00		PLANNED	Rejected					Already facilitated in Sep
10	RQ191292	OCC_223	cpcc1_sd	HVDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-4	POWER GRID	C	Modification in DCCT to avoid protection mal-operation and upgradation of control software	11/Oct/2024 08:00	15/Oct/2024 18:00	18:00		PLANNED	Rejected					Already facilitated in Sep



987	RQ191150	OCC_223	cpct1_sd	TRANSFORMER	400/220 KV 500 MVA ICT 1 AT FATEHGARH_IIP G)		D	For commissioning of N-1 400/220 KV ICT under SS 101 package	01/Oct/2024	15:00	07/Oct/2024	23:59	Kindly note that, during fine tuning of CSD, 4 to 5 on load operations of ICT will be done from each bay	PLANNED	Approved	01-Oct-24	17:00	07-Oct-24	23:59	May be given from 1700 Hrs
988	RQ191151	OCC_223	cpct1_sd	TRANSFORMER	400/220 KV 500 MVA ICT 2 AT FATEHGARH_IIP G)		D	For commissioning of N-1 400/220 KV ICT under SS 101 package	01/Oct/2024	15:00	07/Oct/2024	23:59		PLANNED	Approved	01-Oct-24	17:00	07-Oct-24	23:59	May be given from 1700 Hrs
989	RQ191125	OCC_223	cpct1_sd	TRANSFORMER	400/220 KV 500 MVA ICT 3 AT BALLABHAGARH(P G)		D	For All P work	01/Oct/2024	09:00	01/Oct/2024	18:00		PLANNED	Approved	01-Oct-24	09:00	01-Oct-24	18:00	
990	RQ190663	OCC_223	stump_sd	TRANSFORMER	400/220 KV 500 MVA ICT 2 AT RAMPUR_PRSTL (UP)		C	SF6 GGI Body replacement	29/Oct/2024	09:00	30/Oct/2024	18:00		PLANNED	Approved	29-Oct-24	09:00	30-Oct-24	18:00	May be allowed subject to other ICT must be in service during shutdown
991	RQ190573	OCC_223	stump_sd	TRANSFORMER	400/220 KV 315 MVA ICT 4 AT SULTANPUR(UP)	UPPTCL	C	For Preventive Maintenance of ICT	26/Oct/2024	10:00	26/Oct/2024	17:00		PLANNED	Approved	26-Oct-24	10:00	26-Oct-24	17:00	
992	RQ190593	OCC_223	stump_sd	TRANSFORMER	400/220 KV 315 MVA ICT 3 AT SULTANPUR(UP)	UPPTCL	C	For Preventive Maintenance of ICT	24/Oct/2024	10:00	24/Oct/2024	17:00		PLANNED	Approved	24-Oct-24	10:00	24-Oct-24	17:00	
993	RQ191651	OCC_223	stump_sd	TRANSFORMER	400/220 KV 315 MVA ICT 1 AT GR.NOIDA(UPC)	UPPTCL	C	* In this shut down period routine test will be completed	24/Oct/2024	10:00	24/Oct/2024	14:00		PLANNED	Approved	24-Oct-24	10:00	24-Oct-24	14:00	
994	RQ190592	OCC_223	stump_sd	TRANSFORMER	400/220 KV 240 MVA ICT 2 AT SULTANPUR(UP)	UPPTCL	C	For Preventive Maintenance of ICT	22/Oct/2024	10:00	22/Oct/2024	17:00		PLANNED	Approved	22-Oct-24	10:00	22-Oct-24	17:00	
995	RQ190584	OCC_223	stump_sd	TRANSFORMER	400/220 KV 500 MVA ICT 2 AT MORADABAD(UP)	UPPTCL	D	Planned Shutdown is required for the Annual Routine Testing of >X Protection System of 500MVA ICT- I/II(<=>8<=>PR make).	22/Oct/2024	09:00	23/Oct/2024	18:00		PLANNED	Approved	22-Oct-24	09:00	23-Oct-24	18:00	
996	RQ190591	OCC_223	stump_sd	TRANSFORMER	400/220 KV 500 MVA ICT 1 AT LUCKNOW(UP)	UPPTCL	C	Shutdown required for HV <=>8<=> LV Side annual protection Testing of >X 50 MVA ICT-I- During Shutdown period supply not aff	22/Oct/2024	09:00	22/Oct/2024	18:00		PLANNED	Approved	22-Oct-24	09:00	22-Oct-24	18:00	
997	RQ190590	OCC_223	stump_sd	TRANSFORMER	400/220 KV 315 MVA ICT 2 AT PANK(UP)	UPPTCL	C	SUTDOWN OF 315 MVA ICT-II FOR STRIPPING OF 220KV JACKBUS TWIN WOODSE >X CONDUCTOR & SHUTDOWN OF 315 MVA ICT-II FOR REPLACEMENT OF PRV AND BAY MAINTENANCE	21/Oct/2024	10:00	27/Oct/2024	17:00		PLANNED	Approved	21-Oct-24	10:00	27-Oct-24	17:00	May be allowed subject to other 500MVA must be in service /Load to be managed by UP



1147	RQ191227	OCC_223	cpcc2_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV KISHENPUR(PG)- SALAL(NH) (PG) CKT-2	D	For stringing of 400KV Kishwar Kishenpur line at Kishenpur S/S end, power line crossings of existing lines are being encountered in different spans. Shutdown is required to carry out stringing of under air construction Kishwar-Kishenpur line in the span of 5/0 to 5/10.	05/Oct/2024 08:00	19/Oct/2024 18:00	Under construction head. Kindly approve.	PLANNED	Approved	05-Oct-24	08:00	19-Oct-24	18:00	May be allowed subject to J&K consent/Load to be managed by JK/ shutdown may be postponed after JK Election & Dusehara. Powergrid informed they would avail s/d on daily basis.
1148	RQ190803	OCC_223	cpcc2_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV JESSORE(HP)- PONG(BB) (PG) CKT-1	D	Repalciment of Contro & Relay Panel under Add Cap_Petition No. 712/71/2020 at Pong end.	04/Oct/2024 10:00	05/Oct/2024 18:00	Under construction head. Kindly approve.	PLANNED	Approved	04-Oct-24	10:00	05-Oct-24	18:00	
1149	RQ191806	OCC_223	cpcc2_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV HIRANAGAR(PDD)SARNA(P5) (PG) CKT-1	D	FOR A/M/P WORKS OF LINE & BAY EQUIP/MENTS	04/Oct/2024 10:00	04/Oct/2024 18:00	Kindly approve.	PLANNED	Approved	04-Oct-24	10:00	04-Oct-24	18:00	
1150	RQ190856	OCC_223	cpcc1_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV JAIPUR SOUTH(PG)- CHAKSU(R5) (RS) CKT-1	C	TBC CIRCUIT WIRING CHECKING	04/Oct/2024 09:00	06/Oct/2024 17:00	TBC WIRING CHECKING AND TBC ISOLATOR ALIGNMENT CHECKING AND SHIFTING	PLANNED	Approved	04-Oct-24	09:00	06-Oct-24	17:00	May be allowed subject to Rajasthan consent
1151	RQ190951	OCC_223	cpcc1_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV KURUKSHETRA(P G)- SALEMUR(HV) HVPNL CKT-1	D	FOR A/M/P WORKS AND RELAY TESTING	04/Oct/2024 08:00	04/Oct/2024 18:00		PLANNED	Approved	04-Oct-24	08:00	04-Oct-24	18:00	
1152	RQ190890	OCC_223	cpcc1_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV FATEHGARH_III(P G)-ASEIOL_HB FTGH2 (ASEIOL) (ASEIOL) CKT-1	D	For A/M/P works	03/Oct/2024 15:00	04/Oct/2024 23:59		PLANNED	Approved	03-Oct-24	19:00	04-Oct-24	23:59	May be given from 1900 Hrs
1153	RQ191004	OCC_223	cpcc1_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV SAHARANPUR(PG)SARSAWAN(UP) UP CKT-2	D	AMP Vork of Line Bay	03/Oct/2024 09:00	03/Oct/2024 18:00		PLANNED	Approved	03-Oct-24	09:00	03-Oct-24	18:00	
1154	RQ190788	OCC_223	cpcc2_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV ABDULLAPUR(PG) TEPLA(HV) HVPNL CKT-1	D	FOR YEARLY MAINTENANCE OF LINE BAY EQUIP/MENTS	03/Oct/2024 08:00	03/Oct/2024 18:00	Kindly approve.	PLANNED	Approved	03-Oct-24	08:00	03-Oct-24	18:00	
1155	RQ190889	OCC_223	cpcc1_sd	AC	TRANSMISSION LINE CIRCUIT	220 KV FATEHGARH_III(P G)-AHEIOL PSS HB_FGRAH_PG (AHEIOL) (AHEIOL) CKT-2	D	For commissioning of N-1 400/220 KV ICT under IS 101 package	04/Oct/2024 15:00	07/Oct/2024 23:59		PLANNED	Approved	01-Oct-24	19:00	07-Oct-24	23:59	May be given from 1900 Hrs



1156	RQ190886	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV FATEHGARH_I(IP G-AHEI2L PSS HB_FGRAH_PG (AHEI2L) (AHEI2L) CKT-1	D	For commissioning of N-1 400/220 KV ICT under IS 101 package	01/Oct/2024 15:00	07/Oct/2024 23:59		PLANNED	Approved	01-Oct-24	19:00	07-Oct-24	23:59	May be given from 1900 Hrs
1157	RQ190888	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV FATEHGARH_I(IP G-AHEIOL PSS HB_FGRAH_PG (AHEIOL) (AHEIOL) CKT-1	D	For commissioning of N-1 400/220 KV ICT under IS 101 package	01/Oct/2024 15:00	07/Oct/2024 23:59		PLANNED	Approved	01-Oct-24	19:00	07-Oct-24	23:59	May be given from 1900 Hrs
1158	RQ190887	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV FATEHGARH_I(IP G-AHEI3L PSS HB_FGRAH_PG (AHEI3L) (AHEI3L) CKT-1	D	For commissioning of N-1 400/220 KV ICT under IS 101 package	01/Oct/2024 15:00	07/Oct/2024 23:59		PLANNED	Approved	01-Oct-24	19:00	07-Oct-24	23:59	May be given from 1900 Hrs
1159	RQ190896	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV RENEW SOLARURJA SL_FGARH_PG (RSUP)_ FATEHGARH_I(IP G) (RENEW SOLAR URJA (RSUP)_ CKT-1	D	For commissioning of N-1 400/220 KV ICT under IS 101 package	01/Oct/2024 15:00	07/Oct/2024 23:59		PLANNED	Approved	01-Oct-24	19:00	07-Oct-24	23:59	May be given from 1900 Hrs
1160	RQ190899	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV FATEHGARH_I(IP G-EDEN SL_FGRAH_PG (ERCPL) (EDEN (ERCPL) CKT-1	D	For commissioning of N-1 400/220 KV ICT under IS 101 package	01/Oct/2024 15:00	07/Oct/2024 23:59		PLANNED	Approved	01-Oct-24	19:00	07-Oct-24	23:59	May be given from 1900 Hrs
1161	RQ190802	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV BAIRASUL(NH)- PONG(BB) (PG) CKT-1	D	Repairment of Control & Relay Panel under Add Cap_Portion No. 712/TI/2020 at Pong end.	01/Oct/2024 10:00	02/Oct/2024 18:00	Under construction head. Kindly approve.	PLANNED	Approved	01-Oct-24	10:00	02-Oct-24	18:00	
1162	RQ191805	OCC_223	cpcc2_sd	AC TRANSMISSION LINE CIRCUIT	220 KV SARNA(PG)- DASUYA(PG) (PG) CKT-2	D	FOR A/P WORKS OF LINE & BAY EQUIPMENTS	01/Oct/2024 10:00	01/Oct/2024 18:00	Kindly approve.	PLANNED	Approved	01-Oct-24	10:00	01-Oct-24	18:00	
1163	RQ191005	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV BHIWADI(PG)- MAU(HV) (HVPNI) CKT-1	C	FOR N-RTC DIVERSION WORK	01/Oct/2024 09:00	10/Oct/2024 18:30	OWNER - HVPNI. Both lines and should be shutdown simultaneously	PLANNED	Rejected					Haryana denied consent
1164	RQ191067	OCC_223	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	220 KV BHIWADI(PG)- HSIIDC BAWAL(HV) (HVPNI) CKT-1	C	FOR N-RTC DIVERSION WORK	01/Oct/2024 09:00	10/Oct/2024 18:30	OWNER - HVPNI. Both lines and should be shutdown simultaneously	PLANNED	Rejected					Haryana denied consent





भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

सं.:उ.क्षे.वि.स./प्रचालन/106/01/2025/4-45

दिनांक: 17.01.2025

विषय: उत्तर क्षेत्रीय विद्युत समिति की प्रचालन समन्वय उप- समिति की 227वी बैठक में स्वीकृत आऊटेज कार्यक्रम की सूची।

Subject: Outage programme approved in the 227th OCC Meeting.

विद्युत् उत्पादन कंपनियों व पारेषण लाइसेंस धारकों द्वारा उत्पादन इकाइयों व पारेषण तंत्र के प्रस्तावित आऊटेज कार्यक्रमों को दिनांक 16.01.2025 में आयोजित प्रचालन समन्वय उप- समिति की 227 वी बैठक में चर्चा करने के पश्चात आऊटेज कार्यक्रम की स्वीकृत सूची को उत्तर क्षेत्रीय विद्युत समिति के वेब पोर्टल पर उपलब्ध किया गया है। सभी आऊटेज कार्यक्रम संभावित हैं एवं वास्तविक काल में ग्रिड की स्थिति के अनुरूप प्रभावी होंगे। किसी प्रकार की त्रुटि होने पर दो कार्य दिवसों के भीतर हमें सूचित करने का कष्ट करें।

The outage programme of Generating Units and Transmission Lines proposed by Generating Companies and Transmission Licensees were discussed in the 227th OCC meeting held on 16.01.2025 and the approved list of outages program has been uploaded on NRPC web portal. All outage programmes are approved tentatively subject to real time grid conditions. Discrepancy, if any may kindly be intimated within two working days.

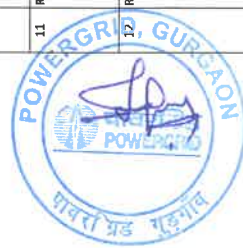
(डी. के. मीना)
अधीक्षण अभियंता (प्रचालन)

सेवा में,
प्रचालन समन्वय उप- समिति के सभी सदस्य।



APPROVED OUTAGE PROGRAM OF 227TH OCC

Sr No	Reference Number	OCC Number	Name of Requesting Agency	Element Type	Element Name	Owner	Daily/Continuous	Reason	Requested From Date	Requested From Time	Requested To Date	Requested To Time	Requester Remarks	Request Type	Shutdown Status	Approved From Date	Approved From Time	Approved To Date	Approved To Time	OCC Remarks
1	RQ206328	OCC_227	ntpcos_sd	GENERATING UNIT	88.71 MW ANTA GPS - UNIT 1	NTPC	C	VHRB-1 LICENSE RENEWAL	21/Feb/2025	00:00	23/Feb/2025	23:59	Outage	PLANNED	Approved	21-Feb-25	00:00	23-Feb-25	23:59	May be allowed
2	RQ206329	OCC_227	ntpcos_sd	GENERATING UNIT	88.71 MW ANTA GPS - UNIT 3	NTPC	C	VHRB-3 LICENSE RENEWAL	21/Feb/2025	00:00	23/Feb/2025	23:59	Outage	PLANNED	Approved	24-Feb-25	00:00	26-Feb-25	23:59	May be allowed
3	RQ206562	OCC_227	ntpcos_sd	GENERATING UNIT	500 MW RIHAND-III STPS - UNIT 2	NTPC	C	CH of Boiler-Boiler RA-HPT with NPT & NPT-Genset	07/Feb/2025	00:00	13/Mar/2025	23:59	boiler license expiring on 12.02.25	PLANNED	Approved	07-Feb-25	00:00	13-Mar-25	23:59	May be allowed
4	RQ206746	OCC_227	ntpcos_sd	GENERATING UNIT	210 MW DADRI-4 TPS - UNIT 4	NTPC	C	Bearings and Valves Exler & Turbine Overhauling	05/Feb/2025	00:00	02/Mar/2025	23:59		PLANNED	Approved	05-Feb-25	00:00	02-Mar-25	23:59	May be allowed
5	RQ206564	OCC_227	ntpcos_sd	GENERATING UNIT	200 MW KOLDAM HPS - UNIT 4	NTPC	C	Annual inspection and Overhaul (OH) for Units 1 and 4 of Koldam Hydro Power Station	26/Feb/2025	00:00	09/Mar/2025	23:59		PLANNED	Approved	26-Feb-25	00:00	09-Mar-25	23:59	May be allowed
6	RQ206563	OCC_227	ntpcos_sd	GENERATING UNIT	200 MW KOLDAM HPS - UNIT 1	NTPC	C	Annual inspection and Overhaul (OH) for Units 1 and 4 of Koldam Hydro Power Station	10/Feb/2025	00:00	21/Feb/2025	23:59		PLANNED	Approved	10-Feb-25	00:00	21-Feb-25	23:59	May be allowed
7	RQ206748	OCC_227	ntpcos_sd	GENERATING UNIT	130.19 MW DADRI GPS - UNIT 4	NTPC	C	For Boiler License Renewal	27/Feb/2025	00:00	28/Feb/2025	23:59		PLANNED	Approved	27-Feb-25	00:00	28-Feb-25	23:59	May be allowed
8	RQ206747	OCC_227	ntpcos_sd	GENERATING UNIT	130.19 MW DADRI GPS - UNIT 2	NTPC	C	For Boiler License Renewal	25/Feb/2025	00:00	26/Feb/2025	23:59		PLANNED	Approved	25-Feb-25	00:00	26-Feb-25	23:59	May be allowed
9	RQ206400	OCC_227	rampur_sd	GENERATING UNIT	68.67 MW RAMPUR HEP - UNIT 5	NTPC	C	Annual Planned Maintenance of PSV# 03 of 68.67 MW RAMPUR HPS. The Unit#05 and Unit#06 will remain under shutdown simultaneously for the same period due to the maintenance of PSV#03.	28/Feb/2025	00:00	03/Mar/2025	18:00	Annual Planned Maintenance	PLANNED	Approved	28-Feb-25	00:00	01-Mar-25	18:00	May be allowed / PSV#3 shutdown duration may be curtailed (Simultaneous shutdown of Unit 5 & 6)
10	RQ206397	OCC_227	rampur_sd	GENERATING UNIT	68.67 MW RAMPUR HEP - UNIT 6	SIVNL	C	Annual Planned Maintenance of Generating Unit#06 of Ramapur HPS.	21/Feb/2025	00:00	02/Mar/2025	18:00	Annual Planned Maintenance	PLANNED	Approved	21-Feb-25	00:00	02-Mar-25	18:00	
11	RQ206396	OCC_227	rampur_sd	GENERATING UNIT	68.67 MW RAMPUR HEP - UNIT 4	SIVNL	C	Annual Planned Maintenance of Generating Unit#04 of Ramapur HPS.	10/Feb/2025	00:00	19/Feb/2025	18:00	Annual Planned Maintenance	PLANNED	Approved	10-Feb-25	00:00	19-Feb-25	18:00	
12	RQ206392	OCC_227	rampur_sd	GENERATING UNIT	68.67 MW RAMPUR HEP - UNIT 4	SIVNL	C	Annual Planned Maintenance of PSV# 02 of 68.67 MW RAMPUR HPS. The Unit#03 and Unit#04 will remain under shutdown simultaneously for the same period due to the maintenance of PSV#02.	05/Feb/2025	00:00	08/Mar/2025	18:00	Annual Planned Maintenance	PLANNED	Approved	05-Feb-25	00:00	07-Feb-25	18:00	unit number & shutdown dates may be checked / PSV#2 shutdown duration may be curtailed (Simultaneous shutdown of Unit 3 & 4)



23	RQ205909	OCC_227	opct1_sd	HYDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-3	POWER GRID	D	Fix installation of updated version of HVDC Control & Protection software	18/Feb/2025 08:00	18/Feb/2025 18:00	Simultaneous shutdown of all 4 poles	PLANNED	Approved	18-Feb-25	08:00	18-Feb-25	18:00	In outage of all 4 poles, ATC/TTC in NR import will be curtailed by 5800MW. May be availed in early February. Subjected to WRPC Approval.
24	RQ205910	OCC_227	opct1_sd	HYDC LINE CIRCUIT	800 KV HVDC KURUKSHETRA-CHAMPA (PG) CKT-4	POWER GRID	D	Fix installation of updated version of HVDC Control & Protection software	18/Feb/2025 08:00	18/Feb/2025 18:00	Simultaneous shutdown of all 4 poles	PLANNED	Approved	18-Feb-25	08:00	18-Feb-25	18:00	In outage of all 4 poles, ATC/TTC in NR import will be curtailed by 5800MW. May be availed in early February. Subjected to WRPC Approval.
25	RQ206949	OCC_227	opct3_sd	AC TRANSMISSION LINE CIRCUIT	765 KV FATEHGARH-SASARAM (PG) CKT-1	POWER GRID	D	Insulator cleaning works	26/Feb/2025 08:00	26/Feb/2025 18:00	NRPC and NLDC is requested to kindly send this request to ERPC for approval as discussed in OCC-226	PLANNED	Approved	26-Feb-25	08:00	26-Feb-25	18:00	Subjected to ERPC Approval.
26	RQ206951	OCC_227	opct3_sd	AC TRANSMISSION LINE CIRCUIT	765 KV VARANASI GAYA (PG) CKT-2	POWER GRID	D	Insulator cleaning works	07/Feb/2025 08:00	08/Feb/2025 18:00	NRPC and NLDC is requested to kindly send this request to ERPC for approval as discussed in OCC-226	PLANNED	Approved	07-Feb-25	08:00	08-Feb-25	18:00	Subjected to ERPC Approval.
27	RQ206950	OCC_227	opct3_sd	AC TRANSMISSION LINE CIRCUIT	765 KV BALIA GAYA (PG) CKT-1	POWER GRID	D	Insulator cleaning works	03/Feb/2025 08:00	05/Feb/2025 18:00	NRPC and NLDC is requested to kindly send this request to ERPC for approval as discussed in OCC-226	PLANNED	Approved	03-Feb-25	08:00	05-Feb-25	18:00	Subjected to ERPC Approval.
28	RQ206957	OCC_227	opct3_sd	AC TRANSMISSION LINE CIRCUIT	765 KV AGRA GWAJIOR (PG) CKT-1	POWER GRID	D	Installation of pilot insulator at tower no. 249 & 251	01/Feb/2025 09:00	01/Feb/2025 18:00	NRPC and NLDC is requested to kindly send this request to WRPC for approval as discussed in OCC-226	PLANNED	Approved	01-Feb-25	09:00	01-Feb-25	18:00	ATC/TTC will be curtailed by 11500MW in NR Import.
29	RQ206034	OCC_227	opct1_sd	BUS	400 KV FATEHGARH-II (PG) - BUS 2	POWER GRID	D	For erection & Commissioning work of bay extension of 400KV/720KV ICT 10 Cila at Fatehgarh 2 RS II/FRA	21/Feb/2025 17:00	24/Feb/2025 23:00		PLANNED	Approved	21-Feb-25	19:00	24-Feb-25	23:00	May be given from 1900 Hrs
30	RQ206033	OCC_227	opct1_sd	BUS	400 KV FATEHGARH-II (PG) - BUS 1	POWER GRID	D	For erection & Commissioning work of bay extension of 400KV/720KV ICT 10 Cila at Fatehgarh 2 RS II/FRA	17/Feb/2025 17:00	20/Feb/2025 23:00		PLANNED	Approved	17-Feb-25	19:00	20-Feb-25	23:00	May be given from 1900 Hrs
31	RQ206850	OCC_227	opct3_sd	AC TRANSMISSION LINE CIRCUIT	400 KV VINOHYACHAL (PG) CKT-2	POWER GRID	C	AMP Work	19/Feb/2025 09:00	22/Feb/2025 18:00		PLANNED	Approved	19-Feb-25	09:00	22-Feb-25	18:00	



40	RQ206975	OCC_227	cpcc3_sd	AC TRANSMISSION LINE CIRCUIT	400 KV GORAKHPUR(PG)- MUZAFFARPUR(PG) GJ - POWERLINK CCT-2	POWERLINK	D	AMP of Line bay	03/Feb/2025 09:00	03/Feb/2025 17:00	Planned and NLDG is requested to kindly send this to ERPC for approval	Planned	Approved	03-Feb-25	09:00	03-Feb-25	17:00	Subjected to ERPC Approval.
41	RQ206032	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 8	*	D	FOR AMP WORK	21/Feb/2025 17:00	22/Feb/2025 23:00		Planned	Approved	21-Feb-25	19:00	22-Feb-25	23:00	May be given from 1900 Hrs
42	RQ206031	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 7		D	FOR AMP WORK	19/Feb/2025 17:00	20/Feb/2025 23:00		Planned	Approved	19-Feb-25	19:00	20-Feb-25	23:00	May be given from 1900 Hrs
43	RQ206030	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 6		D	FOR AMP WORK	17/Feb/2025 17:00	18/Feb/2025 23:00		Planned	Approved	17-Feb-25	19:00	18-Feb-25	23:00	May be given from 1900 Hrs
44	RQ206029	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 5		D	FOR AMP WORK	15/Feb/2025 17:00	16/Feb/2025 23:00		Planned	Approved	15-Feb-25	19:00	16-Feb-25	23:00	May be given from 1900 Hrs
45	RQ206028	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 4		D	FOR AMP WORK	13/Feb/2025 17:00	14/Feb/2025 23:00		Planned	Approved	13-Feb-25	19:00	14-Feb-25	23:00	May be given from 1900 Hrs
46	RQ206027	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 3	*	D	FOR AMP WORK	09/Feb/2025 17:00	10/Feb/2025 23:00		Planned	Approved	09-Feb-25	19:00	10-Feb-25	23:00	May be given from 1900 Hrs
47	RQ206026	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 2		D	For erection & commissioning work of bay extension of 400KV/220KV ICT 10 Eia at Fatehgarh 2 HS INFERA	05/Feb/2025 17:00	08/Feb/2025 23:00		Planned	Approved	05-Feb-25	19:00	08-Feb-25	23:00	May be given from 1900 Hrs
48	RQ206025	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_I(IP GJ) - BUS 1		D	For erection & commissioning work of bay extension of 400KV/220KV ICT 10 Eia at Fatehgarh 2 HS INFERA	01/Feb/2025 17:00	04/Feb/2025 23:00		Planned	Approved	01-Feb-25	19:00	04-Feb-25	23:00	May be given from 1900 Hrs
49	RQ206044	OCC_227	slidrs_sd	AC TRANSMISSION LINE CIRCUIT	220 KV MODAK(RS)- BHANUPURA(MP) IMPSEB) CCT-1	IMPSEB	D	For Half yearly maintenance & testing work	21/Feb/2025 08:00	21/Feb/2025 18:00		Planned	Approved	21-Feb-25	08:00	21-Feb-25	18:00	
50	RQ206083	OCC_227	slidcup_sd	AC TRANSMISSION LINE CIRCUIT	132 KV SAHUPURI(UP)- KARAINASA(BS) IUP) CCT-1	UPPTCL	C	For LIO of line at 132KV chandauli	01/Feb/2025 08:00	05/Feb/2025 18:00	Shutdown is required in last week of January 2025	Planned	Approved	01-Feb-25	08:00	06-Feb-25	18:00	Subjected to ERPC Approval.
51	RQ206038	OCC_227	cpcc1_sd	BUS	765 KV FATEHGARH_I(IP GJ) - BUS 2		D	FOR AMP WORK	27/Feb/2025 17:00	28/Feb/2025 23:00		Planned	Approved	27-Feb-25	17:00	28-Feb-25	23:00	
52	RQ206037	OCC_227	cpcc1_sd	BUS	765 KV FATEHGARH_I(IP GJ) - BUS 1		D	FOR AMP WORK	25/Feb/2025 17:00	26/Feb/2025 23:00		Planned	Approved	25-Feb-25	17:00	26-Feb-25	23:00	
53	RQ206036	OCC_227	cpcc1_sd	BUS	400 KV FATEHGARH- I(IPG) - BUS 4		D	FOR AMP WORK	23/Feb/2025 17:00	24/Feb/2025 23:00		Planned	Approved	23-Feb-25	17:00	24-Feb-25	23:00	
54	RQ206035	OCC_227	cpcc1_sd	BUS	400 KV FATEHGARH- I(IPG) - BUS 3	*	D	FOR AMP WORK	21/Feb/2025 17:00	22/Feb/2025 23:00		Planned	Approved	21-Feb-25	17:00	22-Feb-25	23:00	
55	RQ206034	OCC_227	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	765 KV KHETRI (PKTSL)- JHATIKARA(PG) (PKTSL) CCT-2	PKTSL	D	FOR AMP WORK & rectification work	28/Feb/2025 08:00	28/Feb/2025 18:00		Planned	Approved	28-Feb-25	15:00	28-Feb-25	23:00	Shutdown may be aviled from 15:00hrs.
56	RQ206044	OCC_227	cpcc1_sd	AC TRANSMISSION LINE CIRCUIT	765 KV KHETRI (PKTSL)- JHATIKARA(PG) (PKTSL) CCT-1	PKTSL	D	FOR AMP WORK & rectification work	27/Feb/2025 08:00	27/Feb/2025 18:00		Planned	Approved	27-Feb-25	15:00	27-Feb-25	23:00	Shutdown may be aviled from 15:00hrs.



695	RQ206105	OCC_227	qpc1_sd	BUS	400 KV BIKANER(PG) - BUS 2	D	Bus bar testing work (1500MVA ICT-4 Lays)	25/Feb/2025 15:00	26/Feb/2025 23:00		PLANNED	Approved	25-Feb-25	17:00	26-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
696	RQ206161	OCC_227	qpc1_sd	BUS	400KV BUS 2 AT BAWANA(DV)	C	41489 Isolator retrofitting work at ITL Bawana ss	25/Feb/2025 08:00	27/Feb/2025 18:00		PLANNED	Approved	25-Feb-25	08:00	27-Feb-25	18:00	All other elements must be connected with Other Bus/Subject to Delhi consent/All other elements must be connected with Other Bus
697	RQ206170	OCC_227	qpc1_sd	BUS	400KV BUS 2 AT MANDOLA(PG)	D	Bus bar relay retrofitting work at Mandola ss	25/Feb/2025 08:00	25/Feb/2025 18:00		PLANNED	Approved	25-Feb-25	08:00	25-Feb-25	18:00	Subject to delhi consent/All other elements must be connected with Other Bus
698	RQ205527	OCC_227	qpc1_sd	BUS	400KV BUS 2 AT PATIALA(PG)	D	For AMP work.	24/Feb/2025 08:00	25/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	24-Feb-25	08:00	25-Feb-25	18:00	
699	RQ206169	OCC_227	qpc1_sd	BUS	400KV BUS 1 AT MANDOLA(PG)	D	Bus bar relay retrofitting work at Mandola ss	24/Feb/2025 08:00	24/Feb/2025 18:00		PLANNED	Approved	24-Feb-25	08:00	24-Feb-25	18:00	Subject to delhi consent/All other elements must be connected with Other Bus
700	RQ206164	OCC_227	qpc1_sd	BUS	400KV BUS 2 AT MURADNAGAR_1 (UP)	D	1BB relay testing work at Muradnagar ss	23/Feb/2025 08:00	23/Feb/2025 18:00		PLANNED	Approved	23-Feb-25	08:00	23-Feb-25	18:00	
701	RQ206104	OCC_227	qpc1_sd	BUS	400 KV BIKANER(PG) - BUS 1	D	Bus bar testing & Jumpering work (1500MVA ICT-4 Lays)	22/Feb/2025 15:00	24/Feb/2025 23:00		PLANNED	Approved	22-Feb-25	17:00	24-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
702	RQ206160	OCC_227	qpc1_sd	BUS	400KV BUS 2 AT BAWANA(DV)	C	41489 Isolator retrofitting work at ITL Bawana ss	22/Feb/2025 08:00	24/Feb/2025 18:00		PLANNED	Approved	22-Feb-25	08:00	24-Feb-25	18:00	All other elements must be connected with Other Bus/Subject to Delhi consent
703	RQ206163	OCC_227	qpc1_sd	BUS	400KV BUS 1 AT MURADNAGAR_1 (UP)	D	1BB relay testing work at Muradnagar ss	22/Feb/2025 08:00	22/Feb/2025 18:00		PLANNED	Approved	22-Feb-25	08:00	22-Feb-25	18:00	
704	RQ206034	OCC_227	qpc1_sd	BUS	400 KV FAIRHARH-II(PG) - BUS 2	D	For erection & Commissioning work (1 bay extension of 400KV/220KV ICT 10 kV at Fatehgarh 2 RS NFRA)	21/Feb/2025 17:00	24/Feb/2025 23:00		PLANNED	Approved	21-Feb-25	17:00	24-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
705	RQ206168	OCC_227	qpc1_sd	BUS	400KV BUS 4 AT MANDOLA(PG)	D	Bus bar relay retrofitting work at Mandola ss	21/Feb/2025 08:00	23/Feb/2025 18:00		PLANNED	Approved	21-Feb-25	08:00	23-Feb-25	18:00	Subject to delhi consent/All other elements must be connected with Other Bus
706	RQ205525	OCC_227	qpc2_sd	BUS	400KV BUS 2 AT KATHAL(PG)	D	For AMP work.	20/Feb/2025 09:30	21/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	20-Feb-25	09:30	21-Feb-25	18:00	
707	RQ205526	OCC_227	qpc2_sd	BUS	400KV BUS 1 AT PATIALA(PG)	D	For AMP work.	20/Feb/2025 09:30	21/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	20-Feb-25	09:30	21-Feb-25	18:00	
708	RQ205517	OCC_227	qpc2_sd	BUS	400KV BUS 2 AT PANCHKULA(PG)	D	For AMP work.	19/Feb/2025 09:30	19/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	19-Feb-25	09:30	19-Feb-25	18:00	
709	RQ206096	OCC_227	qpc1_sd	BUS	400KV BUS 2 AT KANKROLI(PG)	D	FOR FIRMWARE UPGRADEATION OF BUS BAR RELAY	19/Feb/2025 09:00	19/Feb/2025 18:00		PLANNED	Approved	19-Feb-25	16:00	19-Feb-25	23:00	May be given from 1600 Hrs/All other elements must be connected with Other Bus
710	RQ206159	OCC_227	qpc1_sd	BUS	400KV BUS 1 AT BAWANA(DV)	C	40839 Isolator retrofitting work at ITL Bawana ss	19/Feb/2025 08:00	21/Feb/2025 18:00		PLANNED	Approved	19-Feb-25	08:00	21-Feb-25	18:00	All other elements must be connected with Other Bus/Subject to Delhi consent
711	RQ205516	OCC_227	qpc2_sd	BUS	400KV BUS 1 AT PANCHKULA(PG)	D	For AMP work.	18/Feb/2025 09:30	18/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	18-Feb-25	09:30	18-Feb-25	18:00	
712	RQ206095	OCC_227	qpc1_sd	BUS	400KV BUS 1 AT KANKROLI(PG)	D	FOR FIRMWARE UPGRADEATION OF BUS BAR RELAY	18/Feb/2025 09:00	18/Feb/2025 18:00		PLANNED	Approved	18-Feb-25	16:00	18-Feb-25	23:00	May be given from 1600 Hrs/All other elements must be connected with Other Bus
713	RQ206167	OCC_227	qpc1_sd	BUS	400KV BUS 3 AT MANDOLA(PG)	D	Bus bar relay retrofitting work at Mandola ss	18/Feb/2025 08:00	20/Feb/2025 18:00		PLANNED	Approved	18-Feb-25	08:00	20-Feb-25	18:00	Subject to delhi consent/All other elements must be connected with Other Bus
714	RQ206090	OCC_227	qpc1_sd	BUS	400 KV BHADLA_2 (PG) - BUS 4	D	Bay Extension Work and Attending Punch Points	17/Feb/2025 17:00	18/Feb/2025 23:00		PLANNED	Approved	17-Feb-25	17:00	18-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus



715	RQ206033	OCC_227	cpct1_sd	BUS	400 KV FATEGARH- II(PG) - BUS 1	D	F r erection & Commissioning work of bay extension of 410KV/220KV CT 10 Die at Fatehgarh 2 RS IN FRA	17/Feb/2025 17:00	20/Feb/2025 23:00		PLANNED	Approved	17-Feb-25	17:00	20-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
716	RQ205524	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT KAITHAL(PG)	D	F r AMP work.	17/Feb/2025 09:30	18/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	17-Feb-25	09:30	18-Feb-25	18:00	
717	RQ206143	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT BASOLI(PG)	D	410KV Busbar Relay Bioritment work.	17/Feb/2025 09:00	27/Feb/2025 18:00		PLANNED	Approved	17-Feb-25	09:00	27-Feb-25	18:00	
718	RQ205522	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT AMRITSAR(PG)	D	F r AMP work.	16/Feb/2025 10:00	16/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	16-Feb-25	10:00	16-Feb-25	18:00	
719	RQ206158	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT BAWANA(DV)	C	41589 Isolator retrofitting work at D 1 Bawana ss	16/Feb/2025 08:00	18/Feb/2025 18:00		PLANNED	Approved	16-Feb-25	08:00	18-Feb-25	18:00	All other elements must be connected with Other Bus/Subject to Delhi consent
720	RQ206089	OCC_227	cpct1_sd	BUS	400 KV BHADIA_2 (PG) - BUS 3	D	B r y Extension Work and Attending Punch P rints	15/Feb/2025 17:00	16/Feb/2025 23:00		PLANNED	Approved	15-Feb-25	17:00	16-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
721	RQ205107	OCC_227	cpct1_sd	BUS	400KV BUS 2 AT JAIPUR	D	AMP Work	15/Feb/2025 09:00	15/Feb/2025 18:00		PLANNED	Approved	15-Feb-25	09:00	15-Feb-25	18:00	
722	RQ206136	OCC_227	cpct1_sd	BUS	400KV BUS 2 AT KOTPUTLI(PG)	D	F r Bay Extension work at 400 kv Kotputli Substation	14/Feb/2025 08:00	14/Feb/2025 18:00		PLANNED	Approved	14-Feb-25	08:00	14-Feb-25	18:00	
723	RQ206088	OCC_227	cpct1_sd	BUS	400 KV BHADIA_2 (PG) - BUS 2	D	B r y Extension Work and Attending Punch P rints	13/Feb/2025 17:00	14/Feb/2025 23:00		PLANNED	Approved	13-Feb-25	17:00	14-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
724	RQ206106	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT JAIPUR	D	AMP Work	13/Feb/2025 09:00	13/Feb/2025 18:00		PLANNED	Approved	13-Feb-25	09:00	13-Feb-25	18:00	
725	RQ206157	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT BAWANA(DV)	C	4 1589 Isolator retrofitting work at D 1 Bawana ss	13/Feb/2025 06:00	15/Feb/2025 18:00		PLANNED	Approved	13-Feb-25	08:00	15-Feb-25	18:00	All other elements must be connected with Other Bus/Subject to Delhi consent
726	RQ206166	OCC_227	cpct1_sd	BUS	400KV BUS 2 AT MANDOLA(PG)	D	B r bar relay retrofitting work at Mandola ss	13/Feb/2025 08:00	17/Feb/2025 18:00		PLANNED	Approved					Subject to delhi consent/All other elements must be connected with Other Bus
727	RQ206135	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT KOTPUTLI(PG)	D	F r Bay Extension work at 400 kv Kotputli Substation	12/Feb/2025 08:00	13/Feb/2025 18:00		PLANNED	Approved	12-Feb-25	08:00	13-Feb-25	18:00	
728	RQ206087	OCC_227	cpct1_sd	BUS	400 KV BHADIA_2 (PG) - BUS 1	D	B r y Extension Work and Attending Punch P rints	11/Feb/2025 17:00	12/Feb/2025 23:00		PLANNED	Approved	11-Feb-25	17:00	12-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus
729	RQ206150	OCC_227	cpct1_sd	BUS	400 KV BIKANER_2 (PBTSU) - BUS 2	D	F r Bay Extension work/ construction activities	10/Feb/2025 17:00	18/Feb/2025 23:30		PLANNED	Approved	10-Feb-25	17:00	18-Feb-25	23:30	May be given from 1700 Hrs/All other elements must be connected with Other Bus
730	RQ206156	OCC_227	cpct1_sd	BUS	400KV BUS 1 AT BAWANA(DV)	C	4 1589 Isolator retrofitting work at D 1 Bawana ss	10/Feb/2025 08:00	12/Feb/2025 18:00		PLANNED	Approved	10-Feb-25	08:00	12-Feb-25	18:00	All other elements must be connected with Other Bus/Subject to Delhi consent
731	RQ206142	OCC_227	cpct1_sd	BUS	400 KV (KHETRI (PKTSU) - BUS 2	D	F r scheme checking work	09/Feb/2025 09:00	10/Feb/2025 18:00		PLANNED	Approved	09-Feb-25	17:00	10-Feb-25	23:00	May be given from 1700 Hrs/All other elements must be connected with Other Bus



1340	RQ206026	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_IIP G) - BUS 2	D	For erection & Commissioning work of bay extension of 420KV/220KV ICT 10 Dia at Fatehgarh 2 RS	05/Feb/2025 17:00	08/Feb/2025 23:00		PLANNED	Approved	05-Feb-25	19:00	08-Feb-25	23:00	May be given from 1900 Hrs
1341	RQ206145	OCC_227	cpcc1_sd	BUS	220 KV BIKANER_2 PBTSL - BUS 1	D	For Bay Extension works/ construction activities	03/Feb/2025 17:00	09/Feb/2025 23:30		PLANNED	Approved	03-Feb-25	19:00	09-Feb-25	23:30	May be given from 1900 Hrs
1342	RQ206473	OCC_227	cpcc2_sd	BUS	220KV BUS 1 AT KAITHAL(PG)	D	Shutdown required for installation of BPT to provide additional support for Bus	03/Feb/2025 09:30	08/Feb/2025 18:00	Kindly approve.	PLANNED	Approved	03-Feb-25	09:30	08-Feb-25	18:00	
1343	RQ206126	OCC_227	cpcc1_sd	BUS	220 KV KURUKSHETRA(P G) - BUS 2	D	For AMP	02/Feb/2025 08:00	07/Feb/2025 18:00		PLANNED	Approved	02-Feb-25	08:00	07-Feb-25	18:00	
1344	RQ206125	OCC_227	cpcc1_sd	BUS	220 KV KURUKSHETRA(P G) - BUS 1	D	For AMP	02/Feb/2025 08:00	02/Feb/2025 18:00		PLANNED	Approved	02-Feb-25	08:00	02-Feb-25	18:00	
1345	RQ206025	OCC_227	cpcc1_sd	BUS	220 KV FATEHGARH_IIP G) - BUS 1	D	For erection & Commissioning work of bay extension of 420KV/220KV ICT 10 Dia at Fatehgarh 2 RS	01/Feb/2025 17:00	04/Feb/2025 23:00		PLANNED	Approved	01-Feb-25	19:00	04-Feb-25	23:00	May be given from 1900 Hrs
1346	RQ206732	OCC_227	cpcc3_sd	BUS	220KV BUS 2 AT ALLAHABAD(PG)	C	For Busbar Relay retrofitment and AMP Works	25/Feb/2025 08:00	28/Feb/2025 18:00		PLANNED	Rejected					May be duplicate entry
1347	RQ206731	OCC_227	cpcc3_sd	BUS	220KV BUS 1 AT ALLAHABAD(PG)	C	For Busbar Relay retrofitment and AMP Works	22/Feb/2025 08:00	24/Feb/2025 18:00		PLANNED	Rejected					May be duplicate entry
1348	RQ206739	OCC_227	cpcc3_sd	BUS	220KV BUS 3 AT SOHAWAL(PG)	D	Transfer bus AMP Work	15/Feb/2025 09:00	15/Feb/2025 18:00		PLANNED	Approved	15-Feb-25	09:00	15-Feb-25	18:00	
1349	RQ206740	OCC_227	cpcc3_sd	BUS	220KV BUS 2 AT GORAKHPUR(PG)	D	AMP Work	14/Feb/2025 09:00	14/Feb/2025 18:00		PLANNED	Approved	14-Feb-25	09:00	14-Feb-25	18:00	
1350	RQ206721	OCC_227	cpcc3_sd	BUS	220KV BUS 2 AT RAEBAREILLY(PG)	D	AMP Work	06/Feb/2025 08:00	06/Feb/2025 18:00		PLANNED	Approved	06-Feb-25	08:00	06-Feb-25	18:00	
1351	RQ206743	OCC_227	cpcc3_sd	BUS	220KV BUS 2 AT LUCKNOW_1(PG)	D	For BUSBAR RELAY RETROFITMENT WORK FOR BUSBAR RELAY	05/Feb/2025 08:00	05/Feb/2025 18:00		PLANNED	Approved	05-Feb-25	08:00	05-Feb-25	18:00	
1352	RQ206720	OCC_227	cpcc3_sd	BUS	220KV BUS 1 AT RAEBAREILLY(PG)	D	AMP Work	04/Feb/2025 08:00	04/Feb/2025 18:00		PLANNED	Approved	04-Feb-25	08:00	04-Feb-25	18:00	
1353	RQ206736	OCC_227	cpcc3_sd	BUS	220 KV PITHORAGARH(P G) - BUS 1	D	Retrofit of 220 KV BUS BAR Panel at Pithoragarh	03/Feb/2025 09:00	03/Feb/2025 18:00		PLANNED	Approved	03-Feb-25	09:00	03-Feb-25	18:00	
1354	RQ206742	OCC_227	cpcc3_sd	BUS	220KV BUS 1 AT LUCKNOW_1(PG)	D	For BUSBAR RELAY RETROFITMENT WORK	03/Feb/2025 08:00	03/Feb/2025 18:00		PLANNED	Approved	03-Feb-25	08:00	03-Feb-25	18:00	
1355	RQ206679	OCC_227	slchp_sd	BUS	220KV BUS 1 AT JESSORE(HP)	D	220 KV Bus A & Bus B along all 220 KV Feeders (Pong, RSD, Baira Siul) at both end for safety	24/Feb/2025 09:00	24/Feb/2025 17:00		PLANNED	Approved	24-Feb-25	09:00	24-Feb-25	17:00	



S. Ramanand Aiyar & Co.

ENCL-6

CHARTERED ACCOUNTANTS

708, 703 SURYA KIRAN 19 KASTURBA GANDHI MARG NEW DELHI 110 001

Tels: 91 11 2331 9284 / 4151 0045

srailyar@yahoo.com, bala@sraco.in

www.sraco.in

CERTIFICATE OF CAPITAL COST

Name of the Company	Power Grid Corporation Of India Ltd. having its Registered Office at B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi-110016
Name of the Region	Northern Region-I
Name of the Project	Augmentation of transformation capacity by 1 x 500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS in Northern region
Name of the Element	500MVA ICT at Fatehgarh-II S/Stn alongwith with associated bays
Date of Commercial Operation	14.02.2025

					Rs in Lacs
S/N	Particulars	Capital Cost	IEDC	IDC	Total
1	Expenditure up to 13.02.2025 (DOCO 14.02.2025)	3368.49	216.93	52.76	3,638.18
2	Expenditure from 14.02.2025 to 31.03.2025	0.30			0.30
3	Estimated Expenditure from 01.04.2025 to 31.03.2026	1047.08			1,047.08
4	Estimated Expenditure from 01.04.2026 to 31.03.2027	174.51			174.51
5	Estimated Expenditure from 01.04.2027 to 31.03.2028	174.51			174.51
	Total	4,764.89	216.93	52.76	5,034.58

a) We have verified the expenditure mentioned at Sl. No. 1 to 2 excluding liabilities in the above table. The same is based on information drawn from the books of Accounts of Power Grid Corporation of India Ltd., NR1, Faridabad for the period ended on 31.03.2025.

b) The Estimated Expenditure mentioned at Sl. No. 3 to 5 are based on Management estimates.

Note: IEDC shown above includes an amount of Rs. 0.47 Lakh from memorandum of accounts.

For S. Ramanand Aiyar & Co.

Chartered Accountants

Firm Registration No-000990N



Puneet Jain

Partner

M.No. 520928

UDIN: 25520928BMJCQBQ8211

Certificate No: SRA/RB/2025-26/41

Place : New Delhi

Date : 06.05.2025



S. Ramanand Aiyar & Co.

CHARTERED ACCOUNTANTS

708, 703 SURYA KIRAN 19 KASTURBA GANDHI MARG NEW DELHI 110 001

Tel: 91 11 2331 9284 / 4151 0045

sraiyar@yahoo.com, bala@sraco.in

www.sraco.in

CERTIFICATE OF CAPITAL COST

Name of the Company

Power Grid Corporation Of India Ltd. having its Registered Office at B-9, Qutub Institutional Area, Katwaria Sarai, New Delhi-110016

Name of the Region

Northern Region-I

Name of the Project

Augmentation of transformation capacity by 1 x 500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS in Northern region

Name of the Element

500MVA ICT at Fatehgarh-II S/Stn alongwith with associated bays

Date of Commercial Operation

14.02.2025

Rs in Lacs

S/N	Particulars	Freehold Land	Leasehold Land	Building and Civil Works	Tr. Line	Sub Station	OPGW	Communication System excl. OPGW	I. T Equipment incl. software, UNMS, URTDSM, EMS, Cyber Security System, REMC, WAMS, SCADA System	Batteries	Total
1	Expenditure up to 13.02.2025 (DOCO 14.02.2025)	-	-	-	-	3,618.49	-	-	19.69	-	3638.18
2	Expenditure from 14.02.2025 to 31.03.2025	-	-	-	-	0.30	-	-	-	-	0.30
3	Estimated Expenditure from 01.04.2025 to 31.03.2026	-	-	-	-	1,042.01	-	-	5.07	-	1047.08
4	Estimated Expenditure from 01.04.2026 to 31.03.2027	-	-	-	-	173.66	-	-	0.85	-	174.51
5	Estimated Expenditure from 01.04.2027 to 31.03.2028	-	-	-	-	173.66	-	-	0.85	-	174.51
	Total	0.00	0.00	0.00	0.00	5008.12	0.00	0.00	26.46	0.00	5034.58

S/N	Particulars	TL	Sub Station incl Communication System & IT Equipment	OPGW	Total
1	Total Cost (Plant and Machinery cost excluding IDC, IEDC, Land cost and cost of Civil works for the purpose of Initial Spares)	-	4,764.89	-	4764.89
2	Initial Spares included above	-	248.39	-	248.39

a) We have verified the expenditure mentioned at Sr. No. 1 to 2 excluding liabilities in the above table. The same is based on information drawn from the books of Accounts of Power Grid Corporation of India Ltd., NR1, Faridabad for the period ended on 31.03.2025

b) The Estimated Expenditure mentioned at Sr. No. 3 to 5 are based on Management estimates.

Note: IEDC shown above includes an amount of Rs. 0.47 Lakh from memorandum of accounts.

For S. Ramanand Aiyar & Co.

Chartered Accountants

Firm Registration No-000990N



Punet Jain

Partner

M.No. 520928

UDIN: 25520928BMJCBQ8211

Certificate No: SRA/RB/2025-26/41

Place : New Delhi

Date : 06.05.2025



Offices also at

Mumbai Kolkata Indore

Gurugram Ernakulam Hyderabad

Liability Flow Statement

Name of Petitioner : POWERGRID Corporation of India Ltd.

Project Name : Augmentation Of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS

Name of the Asset: 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays

Actual DOCO: 14.02.2025

Asset No	Party name	Particular's (TL/SS)	Year of Actual Capitilization	Outstanding Liability as on COD	Rs in Lakhs												Outstanding Liability as on 31.03.2029 (To be discharged after 2024-29)
					Discharge							Additional Liability Reconized * (Unexecuted works)					
					2024-25	2025-26	2026-27	2027-28	2028-29	Total (24-29)	2024-25	2025-26	2026-27	2027-28	2028-29	Total (24-29)	
Asset-1	M/s. Shyam Indus, M/s. T&R	Substation	2025	237.24	0.00	177.93	29.66	29.65	0.00	237.24	0.30	864.08	144.00	144.01	0.00	1152.39	0.00
Asset-1	M/s. Shyam Indus	I.T Equipment	2025	3.71	0.00	2.78	0.46	0.47	0.00	3.71	0.00	2.29	0.39	0.38	0.00	3.06	0.00
	Total			240.95	0.00	180.71	30.12	30.12	0.00	240.95	0.30	866.37	144.39	144.39	0.00	1155.45	0.00



Statement showing IDC Discharged upto DOCO									
Project:	AUGMENTATION OF TRANSFORMATION CAPACITY BY 1X500MVA 400/220KV ICT (6TH) AT FATEHGARH-II PS TO CATER TO THE N-1 CONTINGENCY REQUIREMENT AT FATEHGARH-II PS								
Element:	ICT-10 at Fatehgarh-II								
DOCO:	14-Feb-25								
Loans	Amount	Interest Rate	Drawl Date	Total IDC	Annual Interest Payment upto DOCO	Interest Discharged upto DOCO	Annual Interest Payment Date after DOCO		
Bond LXXV	133.48	7.65%	11-Jan-24	11.09	11-Jan-25	10.23	11-Jan-26		
Canara-02 (2024-2025) (Q3) (01.11.2024)	100.00	Floating	01-Nov-24	2.34	01-Feb-25	2.05	01-Mar-25		
Canara-01 (2024-2025) (Q1) (24.06.2024)	350.00	Floating	24-Jun-24	18.23	01-Feb-25	17.31	01-Mar-25		
Canara-01 (2024-2025) (Q2) (17.09.2024)	50.00	Floating	17-Sep-24	1.66	01-Feb-25	1.52	01-Mar-25		
Canara-01 (2024-2025) (Q2) (23.09.2024)	50.00	Floating	23-Sep-24	1.59	01-Feb-25	1.46	01-Mar-25		
Canara-02 (2024-2025) (Q3) (18.12.2024)	50.50	Floating	18-Dec-24	0.65	01-Feb-25	0.51	01-Mar-25		
Canara-02 (2024-2025) (Q4) (02.01.2025)	1801.75	Floating	02-Jan-25	17.21	01-Feb-25	12.07	01-Mar-25		
HDFC-03 (2024-2025) (Q4) (17.03.2025) (IR Replacement)	5.67	Floating	17-Feb-25	0.00		0.00			
HDFC-03 (2024-2025) (Q4) (29.03.2025) (IR Replacement)	4.73	Floating	24-Feb-25	0.00		0.00			
HDFC-03 (2025-2026) (Q1) (02.04.2025) (IR Replacement)	0.60	Floating		0.00		0.00			
Total	2546.73			52.76		45.16			
Total IDC as per Cost Certificate	52.76								
IDC Discharged upto DOCO	45.16								
Accrual IDC upto DOCO (To be Discharged during 2024-2025)	6.75								
Accrual IDC upto DOCO (To be Discharged during 2025-2025)	0.86								
Certified that interest on Bonds is paid annually and interest on SBI/Canara/HDFC loans is paid monthly as per terms of issue of bonds/loan agreement and no default has been made in respect of debt servicing.									



Khushboo Jain {खुशबू जैन}

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: 28 June 2024 13:13
To: Khushboo Jain {खुशबू जैन}
Cc: MANOJ KUMAR GAUR
Subject: M/s PGCIL: Interest Calculation for the month of June'24

Dear Sir / Madam

Please refer to manual calculation for interest for term loan account of the Company for June 2024 as under:

ACCOUNT NUMBER	173000414153							
Date From	Date Till	No. of days	Principal Liability	ROI	Interest			
01/06/2024	02/06/2024	2	31,210,000,000.00	8.15%	13937616			
03/06/2024	04/06/2024	2	31,910,000,000.00	8.15%	14250219			
05/06/2024	05/06/2024	1	32,060,000,000.00	8.15%	7158603			
06/06/2024	06/06/2024	1	32,310,000,000.00	8.15%	7214425			
07/06/2024	10/06/2024	4	32,510,000,000.00	8.15%	29036329			
11/06/2024	12/06/2024	2	32,610,000,000.00	8.15%	14562822			
13/06/2024	13/06/2024	1	32,710,000,000.00	8.15%	7303740			
14/06/2024	17/06/2024	4	32,810,000,000.00	8.15%	29304274			
18/06/2024	19/06/2024	2	33,310,000,000.00	8.15%	14875425			
20/06/2024	23/06/2024	4	33,510,000,000.00	8.15%	29929479			
24/06/2024	24/06/2024	1	33,610,000,000.00	8.15%	7504699			
25/06/2024	25/06/2024	1	33,810,000,000.00	8.15%	7549356			



26/06/2024	26/06/2024	1	34,010,000,000.00	8.15%	7594014
27/06/2024	27/06/2024	1	34,160,000,000.00	8.15%	7627507
28/06/2024	30/06/2024	3	34,560,000,000.00	8.15%	23150466
				TOTAL	220998973

Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,
Ruchika Mehta
Manager
केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
नेहरु प्लेस / Nehru Place,
नई दिल्ली / New Delhi - 110019
IFSC Code: CNRB0002624



(As per bank corporate e-mail policy, it is necessary to put Sender Name, Designation and Contact Number.)



वृक्ष बचाएं। जब तक अत्यंत आवश्यक ना हो,इस ईमेल का मुद्रण न करें/
Save a tree...Please don't print this e-mail unless you really need to.

Re: M/s PGCIL: Interest Calculation for the month of July '24

Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>

Tue 7/30/2024 11:38 AM

To: Khushboo Jain (खुशबू जैन) <khushboojain@powergrid.in>

Cc: MANOJ KUMAR GAUR <manojkumargaur@canarabank.com>

Dear Sir / Madam

Kindly ignore the trailing mail.

Please find revised manual calculation for interest for term loan account of the Company for July 2024

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-07-2024	01-07-2024	1	34,56,00,00,000.00	8.15%	7716822
02-07-2024	02-07-2024	1	34,81,00,00,000.00	8.15%	7772644
03-07-2024	04-07-2024	2	34,91,00,00,000.00	8.15%	15589945
05-07-2024	07-07-2024	3	35,36,00,00,000.00	8.15%	23686356
08-07-2024	09-07-2024	2	35,76,00,00,000.00	8.15%	15969534
10-07-2024	11-07-2024	2	35,91,00,00,000.00	8.15%	16036521
12-07-2024	18-07-2024	7	36,06,00,00,000.00	8.15%	56362274
19-07-2024	21-07-2024	3	36,54,00,00,000.00	8.15%	24476795
22-07-2024	23-07-2024	2	36,69,00,00,000.00	8.15%	16384849
24-07-2024	25-07-2024	2	36,95,00,00,000.00	8.15%	16500959
26-07-2024	28-07-2024	3	37,17,00,00,000.00	8.15%	24898808
29-07-2024	31-07-2024	3	37,47,00,00,000.00	8.15%	25099767
Total					250495274

Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

केनरा बैंक / Canara Bank,

लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,

नेहरु प्लेस / Nehru Place,

नई दिल्ली / New Delhi – 110019

IFSC Code: CNRB0002624

(As per bank corporate e-mail policy, it is necessary to put Sender Name, Designation and Contact Number.)



वृक्ष बचाएं। जब तक अत्यंत आवश्यक ना हो, इस ईमेल का मुद्रण न करें/
Save a tree...Please don't print this e-mail unless you really need to.

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>

Sent: Tuesday, July 30, 2024 11:09 AM

To: khushboojain <khushboojain@powergrid.in>

Cc: MANOJ KUMAR GAUR <manojkumargaur@canarabank.com>

Subject: Re: M/s PGCIL: Interest Calculation for the month of July '24

Dear Sir / Madam

Please refer to manual calculation for interest for term loan account of the Company for July 2024

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-07-2024	01-07-2024	1	34,55,97,02,917.55	8.15%	7716756
02-07-2024	02-07-2024	1	34,80,97,02,917.55	8.15%	7772578
03-07-2024	04-07-2024	2	34,90,97,02,917.55	8.15%	15589813
05-07-2024	07-07-2024	3	35,35,97,02,917.55	8.15%	23686157
08-07-2024	09-07-2024	2	35,75,97,02,917.55	8.15%	15969402
10-07-2024	11-07-2024	2	35,90,97,02,917.55	8.15%	16036388
12-07-2024	18-07-2024	7	36,05,97,02,917.55	8.15%	56361810
19-07-2024	21-07-2024	3	36,53,97,02,917.55	8.15%	24476596
22-07-2024	23-07-2024	2	36,68,97,02,917.55	8.15%	16384717
24-07-2024	25-07-2024	2	36,94,97,02,917.55	8.15%	16500826
26-07-2024	28-07-2024	3	37,16,97,02,917.55	8.15%	24898609
29-07-2024	31-07-2024	3	37,46,97,02,917.55	8.15%	25099568
				Total	250493218

Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

केनरा बैंक / Canara Bank,

लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,

नेहरु प्लेस / Nehru Place,

नई दिल्ली / New Delhi – 110019

IFSC Code: CNRB0002624



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वृक्ष बचाएं। जब तक अत्यंत आवश्यक ना हो, इस ईमेल का मुद्रण न करें/
Save a tree...Please don't print this e-mail unless you really need to.

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>

Sent: Monday, July 29, 2024 7:22 PM

To: khushboojain <khushboojain@powergrid.in>

Cc: MANOJ KUMAR GAUR <manojkumargaur@canarabank.com>

Subject: M/s PGCIL: Interest Calculation for the month of July '24

Dear Sir / Madam

Please refer to manual calculation for interest for term loan account of the Company for July 2024 till 29.07.2024 as under:

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-07-2024	01-07-2024	1	34,55,97,02,917.55	8.15%	7716756
02-07-2024	02-07-2024	1	34,80,97,02,917.55	8.15%	7772578
03-07-2024	04-07-2024	2	34,90,97,02,917.55	8.15%	15589813
05-07-2024	07-07-2024	3	35,35,97,02,917.55	8.15%	23686157
08-07-2024	09-07-2024	2	35,75,97,02,917.55	8.15%	15969402
10-07-2024	11-07-2024	2	35,90,97,02,917.55	8.15%	16036388
12-07-2024	18-07-2024	7	36,05,97,02,917.55	8.15%	56361810
19-07-2024	21-07-2024	3	36,53,97,02,917.55	8.15%	24476596
22-07-2024	23-07-2024	2	36,68,97,02,917.55	8.15%	16384717
24-07-2024	25-07-2024	2	36,94,97,02,917.55	8.15%	16500826
26-07-2024	28-07-2024	3	37,16,97,02,917.55	8.15%	24898609
29-07-2024	29-07-2024	1	37,46,97,02,917.55	8.15%	8366523

Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,
Ankita Chainde
Officer
केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
नेहरु प्लेस / Nehru Place,
नई दिल्ली / New Delhi – 110019
IFSC Code: CNRB0002624



Shreyans Jain {श्रियांस जैन}

From: Khushboo Jain {खुशबू जैन}
Sent: 29 August 2024 10:15
To: Shreyans Jain {श्रियांस जैन}
Subject: Fw: M/s PGCL: Interest Calculation for the month of August '24

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: Thursday, August 29, 2024 10:13 AM
To: Khushboo Jain {खुशबू जैन} <khushboojain@powergrid.in>
Cc: MANOJ KUMAR GAUR <manojkumargaur@canarabank.com>; Amit Kumar Jain {अमित कुमार जैन} <amitk.jain@powergrid.in>; Hitesh Saini {हितेश सैनी} <hitesh.saini@powergrid.in>
Subject: M/s PGCL: Interest Calculation for the month of August '24

Dear Sir / Madam

Please find manual calculation for interest for term loan account of the Company for August 2024

ACCOUNT NUMBER	173000414153	Date From	Date Till	No. of days	Principal Liability	ROI	Interest
		01-08-2024		1	37,47,00,00,000.00	8.15%	8366589
		02-08-2024		3	38,17,00,00,000.00	8.15%	25568671
		05-08-2024		1	38,37,00,00,000.00	8.15%	8567548
		06-08-2024		1	38,47,00,00,000.00	8.15%	8589877
		07-08-2024		1	38,54,00,00,000.00	8.15%	8605507
		08-08-2024		1	38,62,00,00,000.00	8.15%	8623370
		09-08-2024		4	38,87,00,00,000.00	8.15%	34716767
		13-08-2024		1	38,97,00,00,000.00	8.15%	8701521
		14-08-2024		2	39,10,00,00,000.00	8.15%	17461096
		16-08-2024		4	39,45,00,00,000.00	8.15%	35234795



20-08-2024	20-08-2024	1	39,65,00,00,000.00	8.15%	8853356
21-08-2024	21-08-2024	1	39,95,00,00,000.00	8.15%	8920342
22-08-2024	22-08-2024	1	40,15,00,00,000.00	8.15%	8965000
23-08-2024	26-08-2024	4	40,35,00,00,000.00	8.15%	36038630
27-08-2024	27-08-2024	1	40,50,00,00,000.00	8.15%	9043151
28-08-2024	31-08-2024	4	41,00,00,00,000.00	8.15%	36619178
Total					272875397

Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

केनरा बैंक / Canara Bank,

लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,

नेहरु प्लेस / Nehru Place,

नई दिल्ली / New Delhi - 110019

IFSC Code: CNRB0002624



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Shreyans Jain (श्रेयांस जैन)

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: 30 September 2024 12:33
To: pgbonds
Cc: Khushboo Jain (खुशबू जैन); Shreyans Jain (श्रेयांस जैन)
Subject: M/s Power Grid Corporation of India Limited : Interest Calculation for month of September 2024

Dear Sir / Madam

Please find the manual interest calculation for the mentioned account :

ACCOUNT NUMBER	173000414153								
Date From	Date Till	No. of days	Principal Liability	ROI	Interest				
01-09-2024	01-09-2024	1	41,00,00,00,000.00	8.15%	9154795				
02-09-2024	02-09-2024	1	41,50,00,00,000.00	8.15%	9266438				
03-09-2024	03-09-2024	1	41,60,00,00,000.00	8.15%	9288767				
04-09-2024	04-09-2024	1	41,85,00,00,000.00	8.15%	9344589				
05-09-2024	09-09-2024	5	42,05,00,00,000.00	8.15%	46946233				
10-09-2024	10-09-2024	1	42,30,00,00,000.00	8.15%	9445068				
11-09-2024	16-09-2024	6	42,45,00,00,000.00	8.15%	56871370				
17-09-2024	18-09-2024	2	42,80,00,00,000.00	8.15%	19113425				
19-09-2024	19-09-2024	1	42,90,00,00,000.00	8.15%	9579041				
20-09-2024	22-09-2024	3	43,10,00,00,000.00	8.15%	28871096				
23-09-2024	24-09-2024	2	43,55,00,00,000.00	8.15%	19448356				
25-09-2024	25-09-2024	1	43,80,00,00,000.00	8.15%	9780000				
26-09-2024	26-09-2024	1	44,35,00,00,000.00	8.15%	9902808				
27-09-2024	29-09-2024	3	44,65,00,00,000.00	8.15%	29909384				
30-09-2024	30-09-2024	1	45,00,00,00,000.00	8.15%	10047945				
Total					286969315				

ACCOUNT NUMBER	173000712601					
Date From	Date Till	No. of days	Principal Liability	ROI	Interest	
06-09-2024	30-09-2024	25	15,00,00,000.00	8.15%	835041	

Kindly verify the calculation and inform immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,
Ankita Chainde
Officer
केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
नेहरु प्लेस / Nehru Place,
नई दिल्ली / New Delhi - 110019
IFSC Code: CNRB0002624



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Shreyans Jain (श्रेयांस जैन)

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: 25 October 2024 17:12
To: Shreyans Jain (श्रेयांस जैन)
Cc: Khushboo Jain (खुशबू जैन); pgbonds
Subject: Re: M/s PGCIL: Interest Calculation for the month of October '24

Dear Sir / Madam

Please find revised manual calculation for interest for mentioned term loan account of the Company for October 2024

ACCOUNT NUMBER	173000712601	Date Till	No. of days	Principal Liability	ROI	Interest
Date From						
01-10-2024		03-10-2024	3	15,00,00,000.00	8.15%	100205
04-10-2024		06-10-2024	3	75,00,00,000.00	8.15%	501025
07-10-2024		07-10-2024	1	1,15,00,00,000.00	8.15%	256079
08-10-2024		08-10-2024	1	1,25,00,00,000.00	8.15%	278347
09-10-2024		09-10-2024	1	1,35,00,00,000.00	8.15%	300615
10-10-2024		10-10-2024	1	1,80,00,00,000.00	8.15%	400820
11-10-2024		14-10-2024	4	2,92,00,00,000.00	8.15%	2600874
15-10-2024		15-10-2024	1	3,97,00,00,000.00	8.15%	884030
16-10-2024		16-10-2024	1	4,81,00,00,000.00	8.15%	1071079
17-10-2024		17-10-2024	1	5,70,00,00,000.00	8.15%	1269262
18-10-2024		20-10-2024	3	6,47,00,00,000.00	8.15%	4322172
21-10-2024		21-10-2024	1	6,83,00,00,000.00	8.15%	1520888
22-10-2024		22-10-2024	1	7,28,00,00,000.00	8.15%	1621093
23-10-2024		23-10-2024	1	8,17,00,00,000.00	8.15%	1819276
24-10-2024		31-10-2024	8	8,42,00,00,000.00	8.15%	14999563
			31		Total	31945328



धन्यवाद एवं सादर | Thanks & Regards,
Ankita Chainde

Officer

केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
नेहरु प्लेस / Nehru Place,
नई दिल्ली / New Delhi - 110019
IFSC Code: CNRB0002624



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Save a tree. Please don't print this e-mail unless you really need to.

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>

Sent: Friday, October 25, 2024 11:23 AM

To: Shreyans Jain (श्रैयांस जैन) <shreyans.jain@powergrid.in>

Cc: khushboo.jain <khushboo.jain@powergrid.in>; pgbonds <pgbonds@powergrid.in>

Subject: M/s PGCIL: Interest Calculation for the month of October '24

Dear Sir / Madam

Please find manual calculation for interest for term loan account of the Company for October 2024

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-10-2024	31-10-2024	31	45,00,00,00,000.00	8.15%	311486301
				Total	311486301

ACCOUNT NUMBER	173000712601				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-10-2024	03-10-2024	3	15,00,00,000.00	8.15%	100205
04-10-2024	06-10-2024	3	75,00,00,000.00	8.15%	501025
07-10-2024	07-10-2024	1	1,15,00,00,000.00	8.15%	256079
08-10-2024	08-10-2024	1	1,25,00,00,000.00	8.15%	278347
09-10-2024	09-10-2024	1	1,35,00,00,000.00	8.15%	300615
10-10-2024	10-10-2024	1	1,80,00,00,000.00	8.15%	400820
11-10-2024	14-10-2024	4	2,92,00,00,000.00	8.15%	2600874
15-10-2024	15-10-2024	1	3,97,00,00,000.00	8.15%	884030
16-10-2024	16-10-2024	1	4,81,00,00,000.00	8.15%	1071079
17-10-2024	17-10-2024	1	5,70,00,00,000.00	8.15%	1269262
18-10-2024	18-10-2024	1	6,47,00,00,000.00	8.15%	1440724
21-10-2024	21-10-2024	1	6,83,00,00,000.00	8.15%	1520888
22-10-2024	22-10-2024	1	7,28,00,00,000.00	8.15%	1621093
23-10-2024	23-10-2024	1	8,17,00,00,000.00	8.15%	1819276
24-10-2024	31-10-2024	8	8,42,00,00,000.00	8.15%	14999563
				Total	29063880



Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

केनरा बैंक / Canara Bank,

लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,

नेहरु प्लेस / Nehru Place,

नई दिल्ली / New Delhi - 110019

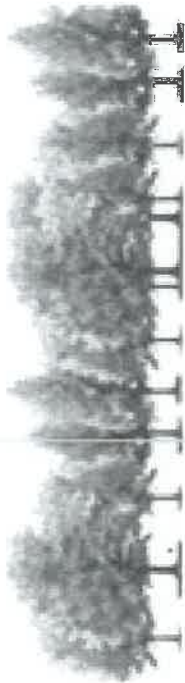
IFSC Code: CNRB0002624



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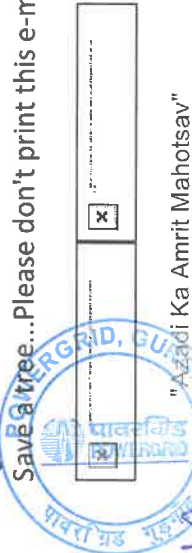


आज़ादी का
अमृत महोत्सव



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Shreyans Jain {श्रियांस जैन}

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: 25 November 2024 12:31
To: Shreyans Jain {श्रियांस जैन}
Cc: Amit Kumar Jain {अमित कुमार जैन}; Hitesh Saini {हितेश सैनी}; Khushboo Jain {खुशबू जैन}
Subject: M/s PGCIL: Interest Calculation for the month of November'24

Dear Sir / Madam

Please find manual calculation for interest for term loan account of the Company for November 2024

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-11-2024	30-11-2024	30	45,00,00,000.00	8.15%	301438356
				Total	301438356

ACCOUNT NUMBER	173000712601				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-11-2024	30-11-2024	30	8,42,00,00,000.00	8.15%	56248361
				Total	56248361

Kindly verify the same and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

केनरा बैंक / Canara Bank,

लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,

Shreyans Jain {श्रैयांस जैन}

From: Shreyans Jain {श्रैयांस जैन}
Sent: 30 December 2024 17:19
To: Canara Bank LCB Nehru Place New Delhi
Cc: Amit Kumar Jain {अमित कुमार जैन}; Omesh Gahlawat {ओमेश गहलावत}; Khushboo Jain {खुशबू जैन}; Hitesh Saini {हितेश सैनी}
Subject: RE: M/s PGCIL: Interest Calculation for the month of December'24
Attachments: RE: M/s PGCIL: Interest Calculation for the month of December'24

Dear Madam,

As discussed in earlier mail (copy of mail attached), **Principal part will be due on 14th January 2025.**

Therefore, Interest portion as per trailing mail will be paid on 1st January 2025 and Principal part will be paid on 14th January 2025.

Thanks and Regards



श्रैयांस जैन

उपप्रबंधक - वित्त

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड

p: 0124-2823413 m: 8109164592

w: www.powergrid.in

a: सौदामिनी, प्लॉट नंबर 2, सेक्टर 29, गुरुग्राम, हरियाणा 122001



From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>

Sent: 30 December 2024 17:12

To: Shreyans Jain {श्रैयांस जैन} <shreyans.jain@powergrid.in>

Cc: Khushboo Jain {खुशबू जैन} <khushboojain@powergrid.in>

Subject: Re: M/s PGCIL: Interest Calculation for the month of December'24

Dear Sir / Madam

Please find the revised interest calculation for Term Loan I 1730000414153

ACCOUNT NUMBER	1730000414153						
Date From	Date Till	No. of days	Principal Liability	ROI	Interest		
01-12-2024	31-12-2024	31	45,00,00,00,000.00	8.15%	311486301		
				Principal	25000000000		
				Total	2811486301		

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

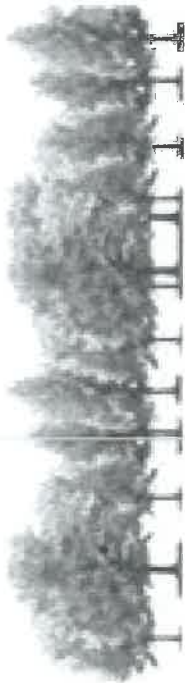
Officer

केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
नेहरु प्लेस / Nehru Place,
नई दिल्ली / New Delhi - 110019

IFSC Code: CNRB0002624



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Save a tree...Please don't print this e-mail unless you really need to.

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: Monday, December 30, 2024 3:40 PM
To: Shreyans Jain (श्रेयांस जैन) <shreyans.jain@powergrid.in>
Cc: khushboo.jain@powergrid.in <khushboo.jain@powergrid.in>
Subject: M/s PGCL: Interest Calculation for the month of December'24

Dear Sir / Madam

Please find manual calculation for interest for term loan account of the Company for December 2024

ACCOUNT NUMBER		173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest	
01-11-2024	30-11-2024	30	45,00,00,00,000.00	8.15%	301438356	
				Principal	2500000000	
				Total	2801438356	

ACCOUNT NUMBER	173000712601	.	No. of days	Principal Liability	ROI	Interest
Date From	Date Till					
01-12-2024	09-12-2024	9		8,42,00,00,000.00	8.15%	16874508
10-12-2024	10-12-2024	1		8,52,00,00,000.00	8.15%	1897213
11-12-2024	12-12-2024	2		8,62,00,00,000.00	8.15%	3838962
13-12-2024	16-12-2024	4		8,72,00,00,000.00	8.15%	7766995
17-12-2024	17-12-2024	1		8,82,00,00,000.00	8.15%	1964016
18-12-2024	18-12-2024	1		9,02,00,00,000.00	8.15%	2008552
19-12-2024	22-12-2024	4		9,15,00,00,000.00	8.15%	8150000
23-12-2024	25-12-2024	3		9,35,00,00,000.00	8.15%	6246107
26-12-2024	26-12-2024	1		9,55,00,00,000.00	8.15%	2126571
27-12-2024	29-12-2024	3		9,65,00,00,000.00	8.15%	6446516
30-12-2024	31-12-2024	2		9,80,00,00,000.00	8.15%	4364481
		.			Total	61683921

Kindly verify the same and inform us immediately incase of any discrepancy .



Further, please find attached of repayment schedule of the Term Loan I 173000414153 stating principal amount of Rs. 250 Crore due on 01.01.2025

आभार एवं सादर | Thanks & Regards,

Ankita Chalde
Officer
केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,

Shreyans Jain (श्रेयांस जैन)

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: 29 January 2025 10:58
To: Shreyans Jain (श्रेयांस जैन)
Cc: Khushboo Jain (खुशबू जैन)
Subject: Interest Calculation for month of January 2025

Dear Sir / Madam

Please find manual interest calculation of the ment5ioried below accounts for month of January 2025:

ACCOUNT NUMBER	173000414153					
Date From	Date Till	No. of days	Principal Liability	ROI	Interest	
01-01-2025	13-01-2025	13	45,00,00,000.00	8.15%	130623288	
14-01-2025	31-01-2025	18	42,50,00,00,000.00	8.15%	170815068	
				Total	301438356	

ACCOUNT NUMBER	173000712601					
Date From	Date Till	No. of days	Principal Liability	ROI	Interest	
01-01-2025	01-01-2025	1	9,80,00,00,000.00	8.15%	2188219	
02-01-2025	02-01-2025	1	10,34,00,00,000.00	8.15%	2308795	
03-01-2025	05-01-2025	3	10,45,00,00,000.00	8.15%	7000068	
06-01-2025	06-01-2025	1	10,55,00,00,000.00	8.15%	2355685	
07-01-2025	08-01-2025	2	10,65,00,00,000.00	8.15%	4756027	
09-01-2025	09-01-2025	1	10,80,00,00,000.00	8.15%	2411507	
10-01-2025	12-01-2025	3	10,95,00,00,000.00	8.15%	7335000	
13-01-2025	14-01-2025	2	11,05,00,00,000.00	8.15%	4934658	
15-01-2025	15-01-2025	1	11,10,00,00,000.00	8.15%	2478493	

16-01-2025	16-01-2025	1	11,20,00,00,000.00	8.15%	2500822
17-01-2025	19-01-2025	3	11,40,00,00,000.00	8.15%	7636438
20-01-2025	21-01-2025	2	12,25,00,00,000.00	8.15%	5470548
22-01-2025	23-01-2025	2	12,35,00,00,000.00	8.15%	5515205
24-01-2025	26-01-2025	3	12,97,00,00,000.00	8.15%	8688123
27-01-2025	31-01-2025	5	13,37,00,00,000.00	8.15%	14926781
				Total	80506370

Please verify the interest amount and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,
Ankita Chainde
Officer
केनरा बैंक / Canara Bank,
लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
नेहरु प्लेस / Nehru Place,
नई दिल्ली / New Delhi - 110019
IFSC Code: CNRB0002624



(As per bank corporate e-mail policy, it is necessary to put Sender Name, Designation and Contact Number.)



वृक्ष बचाएं। जब तक अत्यंत आवश्यक ना हो, इस ईमेल का मुद्रण न करें।

Pawan Kumar (पवन कुमार)

From: Shreyans Jain (श्रेयांस जैन)
Sent: 25 February 2025 15:07
To: Pawan Kumar (पवन कुमार)
Subject: FW: Interest Calculation for month of February 2025

Follow Up Flag: Follow up
Flag Status: Flagged

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>
Sent: 25 February 2025 15:06
To: Shreyans Jain (श्रेयांस जैन) <shreyans.jain@powergrid.in>
Cc: Khushboo Jain (खुशबू जैन) <khushboojain@powergrid.in>
Subject: Re: Interest Calculation for month of February 2025

Dear Sir / Madam

Kindly ignore the trailing mail.



Please find manual interest calculation of the ment5ioned below accounts for month of February 2025:

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest

01-02-2025	11-02-2025	11	42,50,00,00,000.00	8.15%	104386986
12-02-2025	28-02-2025	17	42,50,00,00,000.00	7.90%	156376712
		28		Total	260763699

ACCOUNT NUMBER	173000712601	.			
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-02-2025	11-02-2025	11	13,37,00,00,000.00	8.15%	32838918
12-02-2025	28-02-2025	17	13,37,00,00,000.00	7.90%	49194274
		28		Total	82033192

Please verify the interest amount and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

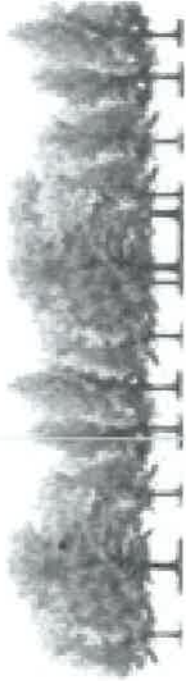
केनरा बैंक / Canara Bank,
 लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
 नेहरु प्लेस, New Delhi - 110019



IPSC Code: CNRB0002624



(As per bank corporate e-mail policy, it is necessary to put Sender Name, Designation and Contact Number.)



वृक्ष बचाएं। जब तक अत्यंत आवश्यक ना हो, इस ईमेल का मुद्रण न करें।
Save a tree...Please don't print this e-mail unless you really need to.

From: Canara Bank LCB Nehru Place New Delhi <cb2624@canarabank.com>

Sent: Tuesday, February 25, 2025 1:50 PM

To: Shreyans Jain (श्रेयांस जैन) <shreyans.jain@powergrid.in>

Cc: khushboo.jain <khushboo.jain@powergrid.in>

Subject: Interest Calculation for month of February 2025

Dear Sir / Madam



Please find manual interest calculation of the month of February 2025:

ACCOUNT NUMBER	173000414153				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-02-2025	11-02-2025	11	42,50,00,00,000.00	8.15%	104386986

12-02-2025	27-02-2025	16	42,50,00,00,000.00	7.90%	147178082
				Total	251565068

ACCOUNT NUMBER	173000712601				
Date From	Date Till	No. of days	Principal Liability	ROI	Interest
01-02-2025	11-02-2025	11	13,37,00,00,000.00	8.15%	32838918
12-02-2025	27-02-2025	16	13,37,00,00,000.00	7.90%	46300493
				Total	79139411

Please verify the interest amount and inform us immediately incase of any discrepancy.

धन्यवाद एवं सादर | Thanks & Regards,

Ankita Chainde

Officer

केनरा बैंक / Canara Bank,
 लार्ज कॉर्पोरेट शाखा/ Large Corporate Branch,
 नेहरू प्लेस / Nehru Place,
 नई दिल्ली / New Delhi – 110019

IFSC Code: CNRB0002624



National Stock Exchange Of India Limited

Ref.: NSE/LIST/7163

January 11, 2024

The Company Secretary/ Compliance Officer/ CFO
Power Grid Corporation of India Limited

Sub: Listing of Non-convertible Debentures issued by Power Grid Corporation of India Limited

This has reference to your application for listing of Unsecured, Redeemable, Non-cumulative, Taxable, Non-convertible Debentures issued by Power Grid Corporation of India Limited

In this connection, we are pleased to inform you that the securities as specified in the application are duly listed on the Debt segment with effect from 11-Jan-2024 and all members have been suitably informed as per details given below:

Sr. No.	Description of Security	Security Type	Security	Issue	No. of securities	Face Value	Maturity Date	ISIN
1	PGCL 7.65% 2034 Sr LXXV	PT	PGC34	7.65%	220000	100000	11-Jan-2034	INE752E08726

If you require any further clarifications, we shall be glad to oblige.

Regards
For National Stock Exchange of India Limited

Note: This is a system generated document and hence is not required to be signed



Summary of Tariff

Form No. - 1

ENCL-9

Name of the Transmission Licensee:		Power Grid Bikaner Transmission System Ltd	
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Year Days	365.00	365.00	365.00	366.00	365.00
Tariff Days	46.00	365.00	365.00	366.00	365.00
Depreciation-Form No. 10A	19.59	178.01	204.13	211.59	215.31
Interest on Loan-Form No. 9E	25.19	221.24	239.95	233.22	221.20
Return on Equity-Form No. 8	24.97	226.92	260.25	269.77	274.52
Int. on Working capital-Form No.11	2.02	17.54	19.13	19.69	20.17
Op. and maintenance-Form No.2	22.83	190.83	200.61	211.03	222.59
Total AFC	94.60	834.54	924.07	945.30	953.79

(Petitioner)



Summary of Asset Level Cost

Form No. - 1A

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency Requirement at Fatehga
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays
Region	Northern Region
	DOC Date Feb 14, 2025

A) Summary of Capital Cost, Means of Finance of the Asset

(Amount in Rs. Lakh)

Particular	i) Apportioned Approved Cost		ii) Summary of Actual / Projected Capital Expenditure incurred						
	As Per IA	As per RCE	As on COD / 01.04.2024	2024-25	2025-26	2026-27	2027-28	2028-29	As on 31.03.2029
Land (Freehold Land)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substations	• 0.00	0.00	3,855.73	0.30	864.08	144.00	144.01	0.00	5,008.12
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land (Leasehold)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IT/Software/UNMS/URTDMS/	0.00	0.00	23.41	0.00	2.29	0.39	0.38	0.00	26.47
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital Cost as per Books	0.00	0.00	3,879.14	0.30	866.37	144.39	144.39	0.00	5,034.59
Less: Liability	0.00	0.00	248.57	0.00	0.00	0.00	0.00	0.00	0.00
Add: discharge of liability	0.00	0.00	0.00	6.75	181.58	30.12	30.12	0.00	0.00
De cap During Year As per Books	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Capital incurred	0.00	0.00	3,630.57	7.05	1,047.95	174.51	174.51	0.00	5,034.59
Equity	1,692.30	0.00	1,089.17	2.11	314.38	52.35	52.35	0.00	1,510.36
Debt	3,948.70	0.00	2,541.40	4.94	733.57	122.16	122.16	0.00	3,524.23



Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency Requirement at Fatehga		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

1. Transmission Lines

(Amount in Rs. Lakh)

Summary:



2. Sub Station

Name of Sub-station	Type of Substation	Voltage Level KV	No. of Transformers/ Reactors/ SVC etc. (with capacity)	No. of Bays				MVA/MVAR Capacity				Date of Comm. operation	Covered in the present petition
				765 KV	400 KV	220 KV	132 KV	765 KV	400 KV	220 KV	132 KV		
FATEHGARH-II:400/220KV ICT AT FATEHGARH-II	Conventional	400 KV			1.000							Feb 14, 2025	Y
FATEHGARH-II:400/220KV ICT AT FATEHGARH-II SUBSTATION	Conventional	220 KV				1.000						Feb 14, 2025	Y
FATEHGARH-II:400/220KV ICT AT FATEHGARH-II SUBSTATION	Conventional	400 KV	1.000						500.00			Feb 14, 2025	Y

Summary:

O&M Expenses For Substations Covered in the instant petition				2024-25				2025-26				2026-27				2027-28				2028-29			
400KV SUB-STATION																							
Normative Rate of O&M as per Regulation																							
No. of Units																							
O&M Claimed																							
220KV SUB-STATION																							
Normative Rate of O&M as per Regulation																							
No. of Units																							
O&M Claimed																							

400KV SUB-STATION ICT

Normative Rate of O&M as per Regulation		0.262	0.276	0.29	0.305	0.322
No. of Units		1.00	1.00	1.00	1.00	1.00
O&M Claimed	.	16.51	138.00	145.00	152.50	161.00



3. Communication System

Summary:



Summary of O&M Expenses claim

(Amount in Rs. Lakh)

Particular	2024-25	2025-26	2026-27	2027-28	2028-29
A) Normative O&M					
Transmission Line	0.00	0.00	0.00	0.00	0.00
Substation	22.83	190.83	200.61	211.03	222.59
Communication System	0.00	0.00	0.00	0.00	0.00
Total Normative O&M	22.83	190.83	200.61	211.03	222.59
B) O&M Claimed under Regulation 35 (3)(C) (* The same is not being claimed and will be claimed through separate Petition)					
*Security Expenses	0.00	0.00	0.00	0.00	0.00
*Actual Capital Spare consumed	0.00	0.00	0.00	0.00	0.00
*Insurance Premium Paid	0.00	0.00	0.00	0.00	0.00
Total O&M	22.83	190.83	200.61	211.03	222.59

(Petitioner)



Normative parameters considered for tariff computations

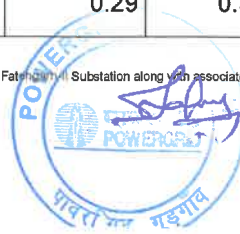
Form No. - 3

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd				
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N				
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays				
Region	Northern Region	DOCO Date	Feb 14, 2025		

(Amount in Rs. Lakh)

Particulars	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Base Rate of Return of Equity (in %)						
Tax Rate (in %)	17.472	17.472	17.472	17.472	17.472	17.472
Effective tax rate (in %)						
Grossed up Rate for ROE of 15.5% (in %)	18.782	18.782	18.782	18.782	18.782	18.782
Grossed up Rate for ROE of 15.0% (in %)	18.176	18.176	18.176	18.176	18.176	18.176
Target availability - AC System (in %)	98.00	98.00	98.00	98.00	98.00	98.00
Target availability - HVDC System (in %)	96.00	96.00	96.00	96.00	96.00	96.00
Norms for sub-station Bays (Rs Lakh per bay)						
765 kV	51.68	41.34	43.51	45.79	48.20	50.73
400 kV	36.91	29.53	31.08	32.71	34.43	36.23
220 kV	25.84	20.67	21.75	22.90	24.10	25.36
132 kV and below	18.46	15.78	16.61	17.48	18.40	19.35
Norms for Transformers (Rs Lakh per MVA)						
765 kV	0.564	0.262	0.276	0.29	0.305	0.322
400 kV	0.411	0.262	0.276	0.29	0.305	0.322
220 kV	0.282	0.262	0.276	0.29	0.305	0.322
132 kV and below	0.282	0.262	0.276	0.29	0.305	0.322
Norms for Reactor (Rs Lakh per MVAR)						
765 kV	0.00	0.262	0.276	0.29	0.305	0.322
400 kV	0.00	0.262	0.276	0.29	0.305	0.322

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220 kV	0.00	0.262	0.276	0.29	0.305	0.322
132 kV and below	0.00	0.262	0.276	0.29	0.305	0.322
Norms for AC and HVDC lines (Rs Lakh per km)						
Single Circuit (Bundled Conductor with six or more sub-conductors)	1.011	0.861	0.906	0.953	1.003	1.056
Single Circuit (Bundled conductor with four sub-conductors)	0.867	0.738	0.776	0.817	0.86	0.905
Single Circuit (Twin & Triple Conductor)	0.578	0.492	0.518	0.545	0.573	0.603
Single Circuit (Single Conductor)	0.289	0.246	0.259	0.272	0.287	0.302
Double Circuit (Bundled conductor with four or more sub-conductors)	1.517	1.291	1.359	1.43	1.506	1.585
Double Circuit (Twin & Triple Conductor)	1.011	0.861	0.906	0.953	1.003	1.056
Double Circuit (Single Conductor)	0.433	0.369	0.388	0.409	0.43	0.453
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.662	2.266	2.385	2.51	2.642	2.781
Multi Circuit (Twin & Triple Conductor)	1.773	1.509	1.588	1.671	1.759	1.851
Norms for HVDC stations (Rs Lakh/MW)						
HVDC Back-to-Back stations (Rs Lakh/MW) (Except Gazuwaka BTB)	0.00	2.07	2.18	2.30	2.42	2.55
Gazuwaka HVDC Back-to-Back station (Rs Lakh/MW)	0.00	1.83	1.92	2.03	2.13	2.24
HVDC bipole scheme (Rs Lakh/MW)	0.00	1.04	1.10	1.16	1.22	1.28

(Petitioner)



Statement of Capital cost

Form No. - 4A

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency Requirement at Fatehga
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays
Region	Northern Region
	DOC Date Feb 14, 2025

A) Capital Cost

(Amount in Rs. Lakh)

Particular	Accrual Basis	Un-discharged Liabilities	Cash Basis
As on relevant date :2024-25			
a) Opening Gross Block Amount as per books	3,879.14	248.57	3,630.57
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in A(a) above	52.76	7.62	45.14
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) above	216.93	0.00	216.93
a) Addition in Gross Block Amount during the period	0.30	0.00	0.30
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in B(a) above	0.00	0.00	0.00
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) above	0.00	0.00	0.00
d) De-cap in gross block amount during the year	0.00	0.00	0.00
a) Closing Gross Block Amount as per books	3,879.44	241.82	3,637.62
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in C(a) above	52.76	0.87	51.89
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost)included in C(a) above	216.93	0.00	216.93

As on relevant date :2025-26

a) Opening Gross Block Amount as per books	3,879.44	241.82	3,637.62
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in A(a) above	52.76	0.87	51.89

c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) above	216.93	0.00	216.93
---	--------	------	--------

a) Addition in Gross Block Amount during the period	866.37	0.00	866.37
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in B(a) above	0.00	0.00	0.00
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) above	0.00	0.00	0.00
d) De-cap in gross block amount during the year	0.00	0.00	0.00

a) Closing Gross Block Amount as per books	4,745.81	60.24	4,685.57
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in C(a) above	52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a) above	216.93	0.00	216.93

As on relevant date :2026-27			
a) Opening Gross Block Amount as per books	4,745.81	60.24	4,685.57
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in A(a) above	52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) above	216.93	0.00	216.93

a) Addition in Gross Block Amount during the period	144.39	0.00	144.39
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in B(a) above	0.00	0.00	0.00
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) above	0.00	0.00	0.00
d) De-cap in gross block amount during the year	0.00	0.00	0.00

a) Closing Gross Block Amount as per books	4,890.20	30.12	4,860.08
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in C(a) above	52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a) above	216.93	0.00	216.93

As on relevant date :2027-28			
a) Opening Gross Block Amount as per books	4,890.20	30.12	4,860.08
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in A(a) above	52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) above	216.93	0.00	216.93



a) Addition in Gross Block Amount during the period		144.39	0.00	144.39
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in B(a) above		0.00	0.00	0.00
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) above		0.00	0.00	0.00
d) De-cap in gross block amount during the year		0.00	0.00	0.00

a) Closing Gross Block Amount as per books		5,034.59	0.00	5,034.59
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in C(a) above		52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a) above		216.93	0.00	216.93

As on relevant date :2028-29

a) Opening Gross Block Amount as per books		5,034.59	0.00	5,034.59
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in A(a) above		52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in A(a) above		216.93	0.00	216.93

a) Addition in Gross Block Amount during the period		0.00	0.00	0.00
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in B(a) above		0.00	0.00	0.00
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in B(a) above		0.00	0.00	0.00
d) De-cap in gross block amount during the year		0.00	0.00	0.00

a) Closing Gross Block Amount as per books		5,034.59	0.00	5,034.59
b) Amount of (i) IDC (ii) FC (iii) FERV & (iv) Hedging cost included in C(a) above		52.76	0.00	52.76
c) Amount of IEDC (excluding IDC, FC, FERV & Hedging cost) included in C(a) above		216.93	0.00	216.93

B) Flow of liability for the Asset

(Amount in Rs. Lakh)

Particular	2024-2025.	2025-2026	2026-2027	2027-2028			
Opening balance of liability	248.57	241.82	60.24	30.12	0.00	0.00	0.00
Add: Liability from ACE	0.00	0.00	0.00	0.00	0.00	0.00	0.00



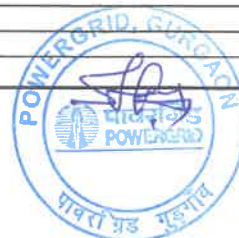
Discharge of liability by payment and claimed as ACE	6.75	181.58	30.12	30.12	0.00	0.00	0.00	0.00	0.00	0.00
Reversal/cancelation (to be entered)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Closing Balance of Admitted liability	241.82	60.24	30.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00

(Petitioner)



Name of the Petitioner:	POWERGRID CORPORATION OF INDIA LIMITED	
Name of the Region:	NORTHERN REGION	
Name of the Project:	Augmentation Of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS	
Name of the Transmission Element or	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays	
DOCO	14.02.2025	
New Projects		
Capital Cost Estimates		
Board of Director/ Agency approving the Capital cost estimates:	Competent Authority of Petitioner	
Date of approval of the Capital cost estimates:	23.01.2023	
	Present Day Cost	Completed Cost
Price level of approved estimates	September-2022 Price Level	Dec-2024 Price Level
Foreign Exchange rate considered for the Capital cost estimates		
Capital Cost excluding IDC, IEDC& FC		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs Lakh)		
Capital cost excluding IDC, FC, FERV & Hedging Cost (Rs. Cr)	4772.13	4764.89
IDC, IEDC, FC, FERV & Hedging Cost		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs Lakh)		
Total IEDC, IDC, FC, FERV & Hedging Cost (Rs Lakh)	868.87	269.69
Rate of taxes & duties considered		
Capital cost Including IDC, IEDC, FC, FERV & Hedging Cost		
Foreign Component, if any (In Million US \$ or the relevant Currency)		
Domestic Component (Rs Lakh)		
Capital cost Including IDC, IEDC& FC (Rs Lakh)	5641.00	5034.58
Schedule of Commissioning	14.02.2025	

(Petitioner)



Element wise Break-up of Project/Asset/Element Cost for Transmission System or Communication System

Name of the Petitioner:

POWERGRID CORPORATION OF INDIA LIMITED

NORTHERN REGION

Name of the Region:

Augmentation of Transmission Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS

Name of the Project:

500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays

Name of the Transmission Element:

Actual DCO:

14.02.2025

Sl. No. (1)	Particulars (2)	Unit of Qty	(Amount in Rs. Lakh)					Actual Capital Expenditure (Gross Block) as on COD as per Books of Accounts (5)	The portion Capital Cost included in Col-5 which is not eligible for Transmission Tariff (e.g. Grant, Other business etc.) (6)	Projected/ Actual of Deferred Work to be Capitalised after COD (7)	Variation between Actual cost & LA Cost (8=(5-6+7)-3 or 4))	Reasons for Variation (9)	Un Discharged Liabilities included in Column-5 (10)	Admitted Cost (11)	Capital Work in progress as per Books of Account as on COD (12)	
			As per Original Estimates (3)		Actual Capital Expenditure (Gross Block) as on COD as per Books of Accounts (5)											
			QTY	Rate	Amount	QTY	Rate									Gross Block of the asset
A	TRANSMISSION LINE															
	Total -Transmission lines				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
B.	SUBSTATIONS															
4.	Preliminary works & land				0											
4.1	Design & Engineering				0											
4.2	Land				0											
4.3	Site preparation				0	1	0.00	0.00		0.00	0.00	0.00	0.00			
	Total Preliminary works & land				0					0.00	0.00		0			
5	Civil Works															
5.1	Control Room & Office Building including HVAC				0	1	0.00	0.00		0.00	0.00	Variation as per actual site conditions.	0.00			
5.2	Township & Colony															
5.3	Roads and Drainage															
5.4	Foundation for structures	LS	1	0.00	0.00		0.00	0.00		0.00	0.00		0.00			
5.5	Misc. civil works	LS	1	20.00	20	1	0.00	0.00		0.00	-20.00		0.00			
	Total Civil Works				20.00	1.00	0.00	0.00	0.00	0.00	-20.00	0.00	0.00			
6	Substation Equipments															
6.1	Switchgear (CT,PT, CB, Isolator etc)	Nos	1	1304.86	1304.86	1	564.49	555.68		8.81	-740.37		115.72			
6.2	Transformers	Nos	1	1849.20	1849.20	1	2308.25	1969.92		338.33	459.05		0.00			
6.3	Main Equipment (Reactor, SVCs etc)	Nos														
6.4	Control, Relay & Protection Panel	LS	1	42.78	42.78	1	100.55	98.62		1.93	57.77	Rates received through open Domestic Competitive Bidding (DCB) process	19.72			
6.5	PLCC	LS	1	0.00	0.00	1	0.00	0.00		0.00	0.00		0.00			
6.6	Automation	Nos	1	0.00	0.00	1	0.00	0.00		0.00	0.00		0.00			
6.7	Bus Bars/ conductors / Insulators	Nos														
6.8	Outdoor Lighting & FF	LS	1	9.08	9.08	1	8.22	5.14		3.08	-0.86		1.03			
6.9	Power & Control Cable	LS	1	86.27	86.27	1	93.54	72.76		20.78	7.27		14.55			
6.10	Grounding System	LS								0.00			0.00			
6.11	Structure for switchyard	LS	1	466.59	466.59	1	564.74	234.45		330.29	98.15	Rates received through open Domestic Competitive Bidding (DCB) process	66.67			
6.12	Miscellaneous (Auxiliaries)	LS	1	0.00	0	1	0.00	0.00		0.00	0.00		0.00			
	Total Substation Equipments				3758.78			2936.57	0.00	703.22	-118.99		217.69			
7	Stakes				130.46	1	248.39	103.47		144.92	117.93		19.55			
8	Taxes and Duties				0											
8.1	Custom Duty															
8.2	Other Taxes & Duties, F&I				840.67			546.00		304.25	9.58		0.00			
8.3	Total Taxes & Duties				840.67			546.00		304.25	9.58		0.00			
	Total (Sub-station)				4749.91			3586.04	0.00	1152.39	-11.48		237.24			
C	Communication System															
9.1	Preliminary Works										0					
9.2	IT equipments															
9.3	Taxes and Duties				18.22			20.37		2.54	15		3.71			
	Total (Communication System)				4			3.03		0.52	4		0.00			
10	Construction and pre-commissioning expenses				22.22			23.40		3.06	18.51		3.71			
11	Overheads															
11.1	Establishment				512.88			216.93			-295.95	As per actual				
11.2	Audit & Accounts							0		0.00	-143.13		0.00			
11.3	Contingency				143.13			216.93	0	0.00	-439.08		0.00			
	Total Overheads				656.01			216.93	0	0.00	-439.08		0.00			

Element wise Break-up of Project/Asset/Element Cost for Transmission System or Communication System

Name of the Petitioner: POWERGRID CORPORATION OF INDIA LIMITED
 Name of the Region: NORTHERN REGION
 Name of the Project: Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to enter to the N-1 Contingency requirement at Fatehgarh-II PS
 Name of the Transmission Element: 500MVA, 400/220V ICT at Fatehgarh-II Substation along with associated bays

Actual DOCO:

14.02.2025

Sl. No. (1)	Particulars (2)	Unit of Qty	(Amount in Rs. Lakh)						Projected/ Actual of Deferred Work to be Capitalised after COD (7)	Variation between Actual cost & L.A. Cost (8)=(5-6+7)-3 or 4)	Reasons for Variation (9)	Un Discharged Liabilities included in Column-5 (10)	Admitted Cost (11)	Capital Work in progress as per Books of Account as on COD (12)
			As per Original Estimates (3)		Actual Capital Expenditure (Gross Block) as on COD as per Books of Accounts (5)									
			QTY	Rate	Amount	QTY	Rate	Gross Block of the asset						
12	Cost of Plant & Machinery													
13	Capital Cost including Plant & Machinery				5428.14			3826.37	-446.32	As per actual	240.95			
13.1	Interest During Construction (IDC)				212.86			52.76	-160.10		0.00			
13.2	Financing Charges (FC)													
13.3	Foreign Exchange Rate Variation (FERV)													
13.4	Hedging Cost													
	Total of IDC, FC, FERV & Hedging Cost				212.86			52.76	-160.10		0.00	0.00		
14	Capital cost including IDC, FC, FERV & Hedging Cost				5641.00			3879.13	-606.42			240.95		

B) Summary of Capital Cost as on COD

S.NO	Particular	Plant & Machinery Cost including initial spare but excluding IDC & IEDC	Initial Spare capitalised	IEDC Capitalised	IDC Capitalised	FERV	Gross Block as per books of Account as on COD	Deduction from Gross Block	Gross block meant for tariff as on COD (after deductions)	Un-discharging liability included in 8	Capital Cost on Cash basis for tariff as on COD
1	Land (Freehold Land)						6-(1+3+4+5)	7	8-(6-7)	9	10-(8-9)
4	Transmission Line	0.00									
5	Sub-Station	3586.04									
6	IT Equipments	23.40	248.39	216.93	52.76	0.00	3879.13	0	3879.13	240.95	3638.18
7	Total Capital Cost as per Books of Account	3609.44	248.39	216.93	52.76	0.00	3879.13		3879.13	240.95	3638.18
8	Less: Un-discharged liabilities										
9	Total Capital Cost Claimed for tariff										
10	% of IDC / IEDC on the base of (Plant & Machinery cost including										
11	Means of Finance										
12	Equity										
13	Debt										

(Petitioner)



Break-up of Construction/Supply/Service Packages

Name of the Petitioner:

POWERGRID CORPORATION OF INDIA LIMITED

Name of the Region:

NORTHERN REGION

Name of the Project:

Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS

Name of the Transmission Element

500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays

Sr. No.	Name/No. of Construction/supply/service package	Scope of works (in line with head of cost breakdown as applicable)	Whether awarded through ICB/DCB/ Departmentally/ Deposit Work, etc.	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award in (Rs. Lakh)	Firm or With Escalation in prices	Actual expenditure till the completion or up to COD whichever is earlier (Rs. Lakh)	Times & Dates of IDC (Rs. Lakh)	IDC, FC, FERV (Rs. Lakh)	Add Cap After DOCO	Sub-Total (Rs. Lakh)
1	Substation Package SS-101 for (i) Extra. of 765/400kV Bktener-FC PS under Transmission System for Evacuation of power from REZ in Rajasthan (200M) under Phase-III Part-I, (ii) Extra. of 400/220kV Bktener-FC PS under Augmentation of Transmission capacity (400/220kV) to cater to the N-1 contingency requirement at Bktener-FC, and (iii) Extra. of 400/220kV Fatehgarh-II S/S under Augmentation of Transmission capacity by 1X 500 MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 contingency requirement at Fatehgarh-II PS (R S INFRA-NRI-23-100413/01-42)	Supply & Service	DCB	4	31.03.2023	31.03.2023	30.03.2024	3381.20 (Supply) 871.61 (Service)	with escalation	2759.29	1067.18	52.76	1155.45	5024.68



Financial Package upto COD

Form No. - 6

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

(Amount in Rs. Lakh)

Particulars	Financial Package as Approved		Financial Package as on COD 01/04/2024		As Admitted on COD 01/04/2024	
	Currency	Amount	Currency	Amount	Currency	Amount
Loans		0.00		0.00		0.00
Loan-Domestic		0.00		0.00		0.00
Loan-Foreign		0.00		0.00		0.00
Total Loans	INR	3,948.70	INR	2,541.40		0.00
Equity		0.00		0.00		0.00
Foreign		0.00		0.00		0.00
Domestic	INR	1,692.30	INR	1,089.17		0.00
Total Equity	INR	1,692.30	INR	1,089.17		0.00
Debt Equity Ratio					70:30	
Total Cost	INR	5,641.00	INR	3,630.57		0.00

Particulars	Debt	Equity	Total
Addcap for 2024 - 2025			7.05
Addcap for 2025 - 2026			1,047.95
Addcap for 2026 - 2027			174.51
Addcap for 2027 - 2028			174.51

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Addcap for 2028 - 2029			0.00	
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Particulars	Actual	Normative	
Addcap for 2024 - 2025			
Equity		2.11	
Debt		4.94	
Total		7.05	
Addcap for 2025 - 2026			
Equity		314.38	
Debt		733.57	
Total		1,047.95	
Addcap for 2026 - 2027			
Equity		52.35	
Debt		122.16	
Total		174.51	
Addcap for 2027 - 2028			
Equity		52.35	
Debt		122.16	
Total		174.51	
Addcap for 2028 - 2029	.		.
Equity		0.00	
Debt		0.00	
Total		0.00	
Total Capital cost with Addcap		5,034.59	



(Petitioner)

Actual cash Expenditure upto COD Year Wise

Name of Project	Augmentation Of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS						
Name of the Asset:	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays						
Actual DOCO	14.02.2025						
Particulars	2023 _ Q4	2024 _ Q1	2024 _ Q2	2024 _ Q3	2024 _ Q4	Total	
Actual Payment to contractors/suppliers during the Year	150.54	364.52	89.58	166.55	2597.30	3368.49	
Cumulative Cash payments at the end of the year	150.54	515.06	604.64	771.19	3368.49	3368.49	
% of cumulative cash Payment on Total Payment up to Actual COD	4.47%	15.29%	17.95%	22.89%	100.00%	100.00%	



Statement of Additional Capitalisation after COD

Form No. - 7

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

(Amount in Rs. Lakh)

Particulars	Addition into Gross Block as per books of Account during the year (2)	De-Cap into Gross Block as per books of Account during the year	Less: Deductions dr. the year towards				Add: Discharge of earlier admitted liability	ACE on cash basis for tariff purpose	Admitted Cost in final tariff (Rs Lakh)
			Grants Received (if any) (3)	Asset pertaining to other businesses (If any) (4)	Other Deduction (if any) (5)	Less: Undischarged liability included in (2-4-5)			
ACE for the year :2024-25 (Actual/Projected)									
Land (Freehold Land)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substations	0.30	0.00	0.00	0.00	0.00	0.00	6.71	7.01	0.00
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land (Leasehold)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IT/Software/UNMS/URTDMS/ SCADA,etc	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.30	0.00	0.00	0.00	0.00	0.00	6.75	7.05	0.00
ACE for the year :2025-26 (Actual/Projected)									



Land (Freehold Land)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substations	864.08	0.00	0.00	0.00	0.00	0.00	178.79	1,042.87	0.00
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land (Leasehold)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IT/Software/UNMS/URTDMS/SCADA,etc	2.29	0.00	0.00	0.00	0.00	0.00	2.79	5.08	0.00
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	866.37	0.00	0.00	0.00	0.00	0.00	181.58	1,047.95	0.00
ACE for the year :2026-27 (Actual/Projected)									
Land (Freehold Land)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substations	144.00	0.00	0.00	0.00	0.00	0.00	29.66	173.66	0.00
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land (Leasehold)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IT/Software/UNMS/URTDMS/SCADA,etc	0.39	0.00	0.00	0.00	0.00	0.00	0.46	0.85	0.00
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	144.39	0.00	0.00	0.00	0.00	0.00	30.12	174.51	0.00
ACE for the year :2027-28 (Actual/Projected)									
Land (Freehold Land)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Transmission Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substations	144.01	0.00	0.00	0.00	0.00	0.00	29.65	173.66	0.00
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land (Leasehold)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IT/Software/UNMS/URTDMS/SCADA,etc	0.38	0.00	0.00	0.00	0.00	0.00	0.47	0.85	0.00
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	144.39	0.00	0.00	0.00	0.00	0.00	30.12	174.51	0.00
ACE for the year :2028-29 (Actual/Projected)									
Land (Freehold Land)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building & Civil Works	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Lines	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substations	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Land (Leasehold)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IT/Software/UNMS/URTDMS/SCADA.etc	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Batteries	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

(Petitioner)



Financing of Additional Capitalisation

Form No. - 7A

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd	
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency Requirement at Fatehga	
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays	
Region	Northern Region	DOC Date Feb 14, 2025

(Amount in Rs. Lakh)

Financial Year (Starting of COD)	Actual/Projected					Admitted			
	2024-25	2025-26	2026-27	2027-28	2028-29	2024-25	2025-26	2026-27	2027-28
Amount capitalized in Work/ Equipment									
Financing Details									
Total Loan	4.94	733.57	122.16	122.16	0.00				
Equity	2.11	314.38	52.35	52.35	0.00				
Total	7.05	1,047.95	174.51	174.51	0.00				



(Petitioner)

Calculation of ROE

Form No. - 8

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No. of Days in the year	365.00	365.00	365.00	366.00	365.00
No. of days for which tariff claimed	46.00	365.00	365.00	366.00	365.00
Opening Normative Equity	1,089.17	1,091.28	1,405.66	1,458.01	1,510.36
Less: Adjustment in Equity*	0.00	0.00	0.00	0.00	0.00
Adjustment during the year	0.00	0.00	0.00	0.00	0.00
Net opening equity (Normal)	1,089.17	1,091.28	1,405.66	1,458.01	1,510.36
Add: Increase in Equity due to addition during the year / period	0.09	259.91	43.31	43.31	0.00
Less: Decrease due to de-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Increase due to discharge during the year / period	2.02	54.47	9.04	9.04	0.00
Closing Normative Equity	1,091.28	1,405.66	1,458.01	1,510.36	1,510.36
Average Normative Equity	1,090.23	1,248.47	1,431.84	1,484.19	1,510.36
Rate of return on Equity (%)	18.176	18.176	18.176	18.176	18.176
Reduced rate of 1% decided by commission under Regulation 30(2) (if any)	0.00	0.00	0.00	0.00	0.00
Effective rate of ROE	15.00	15.00	15.00	15.00	15.00
MAT/Corporate Rate	17.472	17.472	17.472	17.472	17.472
Grossed up rate of ROE	18.176	18.176	18.176	18.176	18.176
Return on Equity	198.16	226.92	260.25	269.77	274.52
Pro rata return on Equity	24.97	226.92	260.25	269.77	274.52

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0752001 : 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays



(Petitioner)

Calculation of WAR of interest on actual loan

Form No. - 9C

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd			
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N			
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays			
Region	Northern Region	DOCO Date	Feb 14, 2025	

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Canara-01 -DOCO LOAN					
Gross Loan- Opening	450.00	450.00	450.00	450.00	450.00
Cumulative repayments of Loans upto previous year	67.50	67.50	112.50	157.50	202.50
Net loan-Opening	382.50	382.50	337.50	292.50	247.50
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	45.00	45.00	45.00	45.00
Net Loan-Closing	382.50	337.50	292.50	247.50	202.50
Average Net Loan	382.50	360.00	315.00	270.00	225.00
Rate of Interest on Loan on Annual Basis	7.90	7.90	7.90	7.90	7.90
Interest on loan	30.2175	28.44	24.885	21.33	17.775

Bond LXXV (75) -DOCO LOAN					
Gross Loan- Opening	133.48	133.48	133.48	133.48	133.48
Cumulative repayments of Loans upto previous year	13.35	13.35	26.70	40.04	53.39
Net loan-Opening	120.13	120.13	106.78	93.44	80.09
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	13.35	13.35	13.35	13.35
Net Loan-Closing	120.13	106.78	93.43	80.09	66.74

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Average Net Loan	120.13	113.46	100.11	86.77	73.42
Rate of Interest on Loan on Annual Basis	7.65	7.65	7.65	7.65	7.65
Interest on loan	9.1899	8.6797	7.6584	6.6379	5.6166

Canara-02 -DOCO LOAN

Gross Loan- Opening	1,952.25	1,952.25	1,952.25	1,952.25	1,952.25
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	139.45
Net loan-Opening	1,952.25	1,952.25	1,952.25	1,952.25	1,812.80
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	139.45	278.89
Net Loan-Closing	1,952.25	1,952.25	1,952.25	1,812.80	1,533.91
Average Net Loan	1,952.25	1,952.25	1,952.25	1,882.53	1,673.36
Rate of Interest on Loan on Annual Basis	7.90	7.90	7.90	7.90	7.90
Interest on loan	154.2278	154.2278	154.2278	148.7199	132.1954

HDFC-03 -ADD CAP ACCRUAL IDC

Gross Loan- Opening	0.00	4.73	4.73	4.73	4.73
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00
Net loan-Opening	0.00	4.73	4.73	4.73	4.73
Add: Drawl(s) during the year	4.73	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	0.00	4.73
Net Loan-Closing	4.73	4.73	4.73	4.73	0.00
Average Net Loan	2.37	4.73	4.73	4.73	2.37
Rate of Interest on Loan on Annual Basis	7.97	7.97	7.97	7.97	7.97
Interest on loan	0.1889	0.377	0.377	0.377	0.1889



HDFC-03 -ADD CAP ACCRUAL IDC

Gross Loan- Opening	0.00	0.00	0.60	0.60	0.60
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00
Net loan-Opening	0.00	0.00	0.60	0.60	0.60
Add: Drawl(s) during the year	0.00	0.60	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	0.00	0.60
Net Loan-Closing	0.00	0.60	0.60	0.60	0.00
Average Net Loan	0.00	0.30	0.60	0.60	0.30
Rate of Interest on Loan on Annual Basis	7.97	7.97	7.97	7.97	7.97
Interest on loan	0.00	0.0239	0.0478	0.0478	0.0239

HDFC-03 -DOCO LOAN

Gross Loan- Opening	5.67	5.67	5.67	5.67	5.67
Cumulative repayments of Loans upto previous year	0.00	0.00	0.00	0.00	0.00
Net loan-Opening	5.67	5.67	5.67	5.67	5.67
Add: Drawl(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	0.00	0.00	0.00	5.67
Net Loan-Closing	5.67	5.67	5.67	5.67	0.00
Average Net Loan	5.67	5.67	5.67	5.67	2.84
Rate of Interest on Loan on Annual Basis	7.97	7.97	7.97	7.97	7.97
Interest on loan	0.4519	0.4519	0.4519	0.4519	0.2263

Summary

Gross Loan- Opening	2,541.40	2,546.13	2,546.73	2,546.73	2,546.73
Cumulative repayments of Loans upto previous year	80.85	80.85	139.20	197.54	395.34



Net loan-Opening	2,460.55	2,465.28	2,407.53	2,349.19	2,151.39
Add: Drawl(s) during the year	4.73	0.60	0.00	0.00	0.00
Less: Repayment(s) of loan during the year	0.00	58.35	58.35	197.80	348.24
Net Loan-Closing	2,465.28	2,407.53	2,349.18	2,151.39	1,803.15
Average Net Loan	2,462.92	2,436.41	2,378.36	2,250.30	1,977.29
Rate of Interest on Loan on Annual Basis	7.888	7.8887	7.8898	7.8907	7.8909
Interest on loan	194.276	192.2003	187.6479	177.5645	156.0261

(Petitioner)



Calculation of interest on Normative loan

Form No. - 9E

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No. of Days in the Year	365.00	365.00	365.00	366.00	365.00
No. of days for which Tariff claimed	46.00	365.00	365.00	366.00	365.00
Gross normative loan-Opening	2,541.40	2,546.34	3,279.91	3,402.07	3,524.23
Cumulative repayments of Normative loan upto previous year	0.00	19.59	197.60	401.73	613.32
Net normative loan-Opening	2,541.40	2,526.75	3,082.31	3,000.34	2,910.91
Addition in normative loan towards the ACE	4.94	733.57	122.16	122.16	0.00
Adjustment of normative gross loan pertaining to the decapitalised asset	0.00	0.00	0.00	0.00	0.00
Normative repayments of normative loan during the year	19.59	178.01	204.13	211.59	215.31
Adjustment of cumulative repayment pertaining to the decapitalised asset	0.00	0.00	0.00	0.00	0.00
Net normative loan - closing	2,526.75	3,082.31	3,000.34	2,910.91	2,695.60
Average normative loan	2,534.08	2,804.53	3,041.33	2,955.63	2,803.26
Weighted Average Rate of interest on actual loan	7.888	7.8887	7.8898	7.8907	7.8909
Interest on normative loan	199.89	221.24	239.95	233.22	221.20
Pro rata interest on normative loan	25.19	221.24	239.95	233.22	221.20

(Petitioner)



Calculation of Depreciation Rate on Original Project Cost

Form No. - 10

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOCO Date	Feb 14, 2025

(Amount in Rs. Lakh)

Name of Assets	Gross block at the beginning of the year	Add Cap during the year	Gross block at the end of the year	Average Gross Block	Depreciation Rate as per CERC's Depreciation Rate Schedule	Depreciation Amount for each year upto 31.03.2029
2024-25						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	0.00	0.00	0.00	0.00	3.34	0.00
Transmission Line	0.00	0.00	0.00	0.00	4.22	0.00
Sub Station	3,610.92	7.01	3,617.93	3,614.43	4.22	19.22
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	15.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDMS/SCADA,etc	19.65	0.04	19.69	19.67	15.00	0.37
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	3,630.57	7.05	3,637.62	3,634.10	0.00	19.59
Weighted Average Rate of Depreciation(%)					0.539061	

2025-26

Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
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Civil & Building	0.00	0.00	0.00	0.00	3.34	0.00
Transmission Line	0.00	0.00	0.00	0.00	4.22	0.00
Sub Station	3,617.93	1,042.87	4,660.80	4,139.37	4.22	174.68
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	15.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	19.69	5.08	24.77	22.23	15.00	3.33
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	3,637.62	1,047.95	4,685.57	4,161.60	0.00	178.01
Weighted Average Rate of Depreciation(%)					4.277441	

2026-27						
Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	0.00	0.00	0.00	0.00	3.34	0.00
Transmission Line	0.00	0.00	0.00	0.00	4.22	0.00
Sub Station	4,660.80	173.66	4,834.46	4,747.63	4.22	200.35
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	15.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	24.77	0.85	25.62	25.20	15.00	3.78
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	4,685.57	174.51	4,860.08	4,772.83	0.00	204.13
Weighted Average Rate of Depreciation(%)					4.276917	



2027-28

Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	0.00	0.00	0.00	0.00	3.34	0.00
Transmission Line	0.00	0.00	0.00	0.00	4.22	0.00
Sub Station	4,834.46	173.66	5,008.12	4,921.29	4.22	207.68
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	15.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	25.62	0.85	26.47	26.05	15.00	3.91
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	4,860.08	174.51	5,034.59	4,947.34	0.00	211.59
Weighted Average Rate of Depreciation(%)					4.276844	

2028-29

Land(Freehold)	0.00	0.00	0.00	0.00	0.00	0.00
Civil & Building	0.00	0.00	0.00	0.00	3.34	0.00
Transmission Line	0.00	0.00	0.00	0.00	4.22	0.00
Sub Station	5,008.12	0.00	5,008.12	5,008.12	4.22	211.34
Comm. Sys. excluding Fiber Optic	0.00	0.00	0.00	0.00	15.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	3.34	0.00
IT/Software/UNMS/URTDSM/SCADA,etc	26.47	0.00	26.47	26.47	15.00	3.97
Batteries	0.00	0.00	0.00	0.00	9.50	0.00
Fiber Optic/OPGW	0.00	0.00	0.00	0.00	6.33	0.00
TOTAL	5,034.59	0.00	5,034.59	5,034.59	0.00	215.31



Weighted Average Rate of Depreciation(%)					4.276614	
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(Petitioner)



Statement of Depreciation

Form No. - 10A

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd			
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N			
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays			
Region	Northern Region	DOCO Date	Feb 14, 2025	

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No of Days in the year	365.00	365.00	365.00	366.00	365.00
No of days for which tariff claimed	46.00	365.00	365.00	366.00	365.00
Life at the beginning of the year					
1.1 Weighted Average useful life of the Asset/Project	25.00	25.00	25.00	25.00	25.00
1.2 Lapsed Weighted Average useful life of the Asset/Project(in completed no. of year)	0.00	0.00	1.00	2.00	3.00
1.3 Balance Weighted Average useful life of the Asset/Project(in completed no. of year)	25.00	25.00	24.00	23.00	22.00
Capital Base					
1.4 Opening capital cost	3,630.57	3,637.62	4,685.57	4,860.08	5,034.59
1.5 Additional Capital Expenditure dr. the year	7.05	1,047.95	174.51	174.51	0.00
1.6 De-Capitalisation During the year	0.00	0.00	0.00	0.00	0.00
1.7 Closing capital cost	3,637.62	4,685.57	4,860.08	5,034.59	5,034.59
1.8 Average capital cost	3,634.10	4,161.60	4,772.83	4,947.34	5,034.59
1.9 Freehold land included in 1.8	0.00	0.00	0.00	0.00	0.00
1.10 Asset having NIL salvage value included in 1.8	19.67	22.23	25.20	26.05	26.47
1.11 Asset having 10% salvage value included in 1.8	3,614.43	4,139.37	4,747.63	4,921.29	5,008.12
1.12 Depreciable Value(1.10+90% of 1.11)	3,272.66	3,747.66	4,298.07	4,455.21	4,533.78
Depreciation for the period and Cum. Depreciation					
1.13 Weighted Average Rate of depreciation	0.539061	4.277441	4.276917	4.276844	4.276614



1.14 Depreciation(for the period)	19.59	178.01	204.13	211.59	215.31
1.15 Depreciation(Annualised)	19.59	178.01	204.13	211.59	215.31
Unrecovered Depreciation for DECAP	0.00	0.00	0.00	0.00	0.00
1.16 Cumulative depreciation at the beginning of the period	0.00	19.59	197.60	401.73	613.32
1.17 Less:Adj of Cum. Dep pertaining to decapitalised Asset	0.00	0.00	0.00	0.00	0.00
1.18 Cumulative depreciation at the end of the period	19.59	197.60	401.73	613.32	828.63

(Petitioner)



Calculation of interest on working Capital

Form No. - 11

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd		
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N		
Element Description	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays		
Region	Northern Region	DOC Date	Feb 14, 2025

(Amount in Rs. Lakh)

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
No of Days in the year	365.00	365.00	365.00	366.00	365.00
No of days for which tariff claimed	46.00	365.00	365.00	366.00	365.00
O&M Expenses-one month	15.10	15.90	16.72	17.59	18.55
Maintenance spares 15% of O&M Expenses	27.18	28.62	30.09	31.65	33.39
Receivables equivalent to 45 days of AFC	92.55	102.89	113.93	116.23	117.59
Total Working capital	134.83	147.41	160.74	165.47	169.53
Bank Rate as on 01.04.2024 or as on 01st April of the COD year, whichever is later.	11.90	11.90	11.90	11.90	11.90
Interest on working capital	16.04	17.54	19.13	19.69	20.17
Pro rata interest on working capital	2.02	17.54	19.13	19.69	20.17

(Petitioner)



Details of time over run

Name of Project Augmentation of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS

Transmission Element 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays

Actual DOCO : 14.02.2025

S.No.	Description of Activity/Works/Service	Original Schedule (As per Planning)		Actual Achieved (As per Actual)		Time Over-Run	Agency responsible and whether such time over run was beyond the control of the Transmission Licensee	Reasons for delay	Other Activity affected (Mention Sr. No of activity affected)	Agency LOA No.
		Start Date	Completion Date	Start Date	Completion Date					
1.	Investment Clearance by BOD	23.01.2023	23.01.2023	23.01.2023	23.01.2023					
2.	NOA	31.03.2023	31.03.2023	31.03.2023	31.03.2023					
3.	Supplies	15.04.2023	13.11.2023	22.09.2023	28.12.2024	13	M/s. R. S. Infra			R.S.INFRA CC/NT/AIS/DOM/ A04/22/00541/NO A-1&2/23- 100413/01 & 02
4.	Foundation	01.04.2023	15.12.2023	10.10.2023	17.11.2024	11	M/s. R. S. Infra	Delay in providing shutdowns	Resulted in delay of erection work	
5.	Erection	01.09.2023	15.02.2024	01.06.2024	05.02.2025	12	M/s. R. S. Infra		Resulted in delay of testing & commissioning work	
6.	Testing & Commissioning	15.02.2024	30.03.2024	24.12.2024	07.02.2025	11	M/s. R. S. Infra			

Incidental Expenditure during Construction

Name of the Petitioner: Power Grid Corporation of India Limited
Name of the Region: Northern Region
Name of the Project: Augmentation Of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS
Name of the Transmission Element 500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays

Actual DOCO

14.02.2025

Sl. No.	Parameters	2023-24	2024-25	TOTAL
A	Expenses:			
1	Employees' Remuneration & Benefits	40.09	169.08	209.17
2	Finance Costs	0.00	0.00	0.00
3	Water Charges	0.00	0.00	0.00
4	Communication Expenses	0.00	0.00	0.00
5	Power Charges	0.00	0.00	0.00
6	Depreciation	0.00	0.00	0.00
7	Other Office and Administrative Expenses	0.37	7.39	7.76
8	Others (Please Specify Details)	0.00	0.00	0.00
9	Professional Charges	0.00	0.00	0.00
10	WIP transfer from CC	0.00	0.00	0.00
	Other pre-Operating Expenses	0.00	0.00	0.00
	TOTAL	40.46	176.47	216.93
B	Total Expenses			
1	Less: Income from sale of tenders	0.00	0.00	0.00
2	Less: Income from guest house	0.00	0.00	0.00
3	Less: Income recovered from Contractors	0.00	0.00	0.00
4	Less: CC/RHQ Other Income chargeable to Revenue	0.00	0.00	0.00
5	Less: Interest on Deposits	0.00	0.00	0.00
6	Less: Int.Income.Temp.Fund	0.00	0.00	0.00
	TOTAL	0.00	0.00	0.00
	GRAND TOTAL	40.46	176.47	216.93



Drawdown schedule Calculation of IDC & Financing Charges

Form No. - 12B

Name of the Transmission Licensee	Power Grid Bikaner Transmission System Ltd
Project	Augmentation of Transformation capacity by 1x500MVA 400/220 KV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency Requirement at Fatehga
Element Description	500MVA, 400/220KV ICT at Fatehgarh-II Substation along with associated bays
Region	Northern Region
	DOC Date
	Feb 14, 2025

Particulars	Quarter 1			Quarter 2			Quarter n (COD)		
	Quantum in FC	Ex. Rate on Drawn Date	Amount in Indian Rupee	Quantum in FC	Ex. Rate on Drawn Date	Amount in Indian Rupee	Quantum in FC	Ex. Rate on Drawn Date	Amount in Indian Rupee
Loans									
Foreign Loans									
Total of Foreign Loans									
Indian Loans									
Canara-01 -DOCO LOAN									450.00
Draw Down Account									
IDC									
Financing Charges									
Bond LXXV (75) -DOCO LOAN									



Details of Initial Spares

Name of the petitioner	Power Grid Corporation of India Limited
Name of the Region:	Northern Region
Name of the Project:	Augmentation Of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS
Name of the Transmission Element	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays
Claimed / Admitted COD	14.02.2025
	Cut-off Date of the Asset: 31.03.2028

A) Determination of Excess initials spare and its adjustment from Capital cost

Particulars	Plant and machinery cost as on cut-off Date (Excluding Initial Spares)	Initial Spare Capitalised as per Books of Account up to Cut-off Date					Ceiling limit as mentioned in Regulations 23	Entitled Initial Spare as per Regulations	Excess of capitalised Initial Spare to be reduced from Capital cost.	Adjustment of Excess Initial Spare from Capital cost of Plant and Machinery			
		As on COD	As ACE dr. Y1 (2025-26)	As ACE dr. Y2 (2026-27)	As ACE dr. Y3 (2027-28)	Total as on Cut off Date				COD	ACE for Y1	ACE for Y2	ACE for Y3
1	2	3	4	5	6	7	8	9	10=7-9	11	12	13	14
Transmission Line	0.00	0.00		0.00	0.00	0.00	1.00%	0.00	0.00				
Substation Green field							4.00%	0.00	0.00				
Substation Brown Field	4516.50	103.47	108.69	18.12	18.11	248.39	6.00%	270.99	-22.60				
Communication System						0.00	3.50%	0.00	0.00				
Initial spare as per Books of Account		103.47	108.69	18.12	18.11	248.39							
Un-Discharge liabilities included above						0.00							
Total Capitalized initial spare (Cash Basis)		103.47	108.69	18.12	0.00	248.39							

B) Determination of Plant & Machinery Cost for ceiling of initial spare.

[illegible]

(Petitioner)

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PART-III

**Checklist of Forms and other information/ documents for tariff filing for
Transmission System & Communication System**

Form No.	Title of Tariff Filing Forms (Transmission & Communication System)	Tick
FORM- 1	Summary of Tariff	✓
FORM- 1A	Summary of Asset level cost	✓
FORM-2	Details of Transmission Lines and Substations and Communication System covered in the project scope and O&M for instant asset	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM- 4	Abstract of existing transmission assets/elements under project, Determination of Effective COD and Weighted Average Life for single AFC for the project as whole.	N.A.
FORM- 4A	Statement of Capital cost	✓
FORM- 4B	Statement of Capital Works in Progress	N.A.
FORM- 4C	Abstract of Capital Cost Estimates and Schedule of Commissioning for the New Project/ Element	✓
FORM-5	Element wise Break-up of Project/ Asset/Element Cost for Transmission System or Communication System	✓
FORM-5A	Break-up of Construction/Supply/Service packages	✓
FORM-5B	Details of all the assets covered in the project	N.A.
FORM- 6	Actual Cash Expenditure and Financial Package up to COD	✓
FORM- 7	Statement of Additional Capitalisation after COD	✓
FORM- 7A	Financing of Additional Capitalisation	✓
FORM- 7B	Statement of Additional Capitalisation during five year before the end of the useful life of the project.	N.A.
FORM- 8	Calculation of Return on Equity	✓
FORM-8A	Details of Foreign Equity	N.A.
FORM-9	Details of Allocation of corporate loans to various transmission elements	N.A.
FORM-9A	Details of Project Specific Loans	N.A.
FORM-9B	Details of Foreign loans	N.A.
FORM-9C	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM-9D	Loans in Foreign Currency	N.A.
FORM-9E	Calculation of Interest on Normative Loan	✓
FORM- 10	Calculation of Depreciation Rate on original project cost	✓
FORM- 10A	Statement of Depreciation	✓
FORM- 10B	Statement of De-capitalisation	N.A.
FORM- 11	Calculation of Interest on Working Capital	✓
FORM- 12	Details of time over run	N.A.
FORM- 12A	Incidental Expenditure during Construction	✓
FORM- 12B	Calculation of IDC & Financing Charges	✓
FORM- 13	Details of Initial spares	✓
FORM- 14	Non-Tariff Income	N.A.
FORM- 15	Summary of issue involved in the petition	✓
FORM A	Summary of Capital Cost & Annual Fixed Cost (AFC) Claimed for ALL the assets covered in the present petition.	✓



Other Information/ Documents		
S. No.	Information/Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Project(s) setup by a company making tariff application for the first time to CERC)	N.A.
2	Region wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & Annexure for the new Transmission System & Communication System for the relevant years.	N.A.
3	Copies of relevant loan Agreements	N.A.
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	N.A.
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	N.A.
6	Copies of the BPTA/TSA/PPA with the beneficiaries, if any	N.A.
7	Detailed note giving reasons of cost and time over run, if applicable. List of supporting documents to be submitted: a. Detailed Project Report b. CPM Analysis c. PERT Chart and Bar Chart d. Justification for cost and time Overrun	N.A.
8	Transmission Licensee shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the transmission system as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021- 22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	N.A.
9.	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify formats suitably as per available information to them for submission of required information for tariff purpose.	N.A.
10.	Any other relevant information, (Please specify)	N.A.



Summary of issue involved in the petition

**PART-III
FORM- 15**

1. Name of the Petitioner	Powergrid Corporation of India Ltd
2. Petition Category	Transmission
3. Tariff Period	2019-24
4. Name of the Project	Augmentation Of Transformation Capacity by 1X500MVA 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS
5. Investment Approval date	23.01.2023
6. SCOD of the Project	13.04.2024
7. Actual COD of the project	14.02.2025
8. Whether entire scope is covered in the present petition.	YES
9. No. of Assets covered in instant petition	01 no
10. No. of Assets having time over run	01 no
11. Estimated Project Cost as per IA	Asset-1: Rs. 5641.00 Lakhs
12. Is there any REC? if so, provide the date	NO
13. Revised Estimated Project Cost (if any)	N A
14. Completion cost for all the assets covered in the instant petition.	Asset-1: Rs. 5034.58 Lakhs
15. No. of Assets covered in instant petition and having cost overrun.	Yes
16	Prayer in brief
17	Key details and any Specific issue involved
18	Respondents
	Name of Respondents
1	AVVNL
2	JODHPUR VVNL
3	JAIPUR VVNL
4	HPSEBL
5	PSTCL
6	HPPC
7	JKPCL
8	UPPCL
9	BSES YAMUNA
10	BSES RAJDHANI
11	TPDDL
12	UTTRAKHAND PCL
13	NORTH CENTRAL RAILWAY
14	NDMC
15	CHANDIGARH ELECTRICITY DEPARTMENT
16	HVPNL
17	CTUIL



(Petitioner)



PART-III														
Summary of Capital Cost & Annual Fixed Cost (AFC) Claimed for ALL the assets covered in the present petition.														
Name of the Petitioner		Powergrid Corporation of India Ltd												
Tariff Period		2019-24												
Name of the Transmission Project		Augmentation Of Transformation Capacity by 1X500MVA, 400/220kV ICT (6th) at Fatehgarh-II PS to cater to the N-1 Contingency requirement at Fatehgarh-II PS												
COD of the Project (if entire scope of project is completed)		14.02.2025												
Rupees in lakh														
A) Summary of Capital Cost as on COD and Additional Capital Expenditure claimed for all the assets Covered in the instant petition.														
S. No.	Asset No.	COD	Cut-off Date	ii) Apportioned Approved Cost ii) Summary of Actual / Projected Capital Cost										Capital Cost as on Cut-off Date
				As per IA	As per RCE	As on COD	2024-25	2025-26	2026-27	2027-28	2028-29	Capital Cost as on 31.03.2029		
1	Asset-1	14.02.2025	31.03.2028	3	4	5	6	7	8	9	10	11=	12	
				5641	0	3638.18	0.3	1047.08	174.51	174.51	0	(5+6+7+8+9+10)	5034.58	
Total Capital Cost Claimed				5641.00	0.00	3638.18	0.30	1047.08	174.51	174.51	0.00	5034.58	5034.58	
B) Summary of Annual Fixed Cost (AFC) claimed for all the assets covered in the instant petition.														
S. No.	Asset No.	Asset Name and its location												
1	Asset-1	500MVA, 400/220kV ICT at Fatehgarh-II Substation along with associated bays												
		Total AFC for all the Assets												
									2024-25	2025-26	2026-27	2027-28	2028-29	
									94.6	834.54	924.07	945.3	953.79	
									94.60	834.54	924.07	945.30	953.79	
Note: 1) The purpose of this form is to summarise the Capital cost & AFC claimed for all the assets covered in the instant petition.														
(Petitioner)														