

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

**DIARY NO.  
PETITION NO.        /TL/2024**

**IN THE MATTER OF**

Ishanagar Power Transmission Limited

...**APPLICANT**

**VERSUS**

Central Transmission Utility of India Ltd.  
& Anr.

...**RESPONDENTS**

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*Lokendra Singh*



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**APPLICANT/ Ishanagar Power Transmission Limited**

**Place: Noida, U.P.**

**Date: 16.02.2024**



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

**PETITION NO. \_\_\_/TL/2024**

**MEMO OF PARTIES**

**IN THE MATTER OF:**

Ishanagar Power Transmission Limited  
Windsor, 1st Floor, Unit no. 101, Kalina,  
Santacruz East, Mumbai, Maharashtra 400098

**...APPLICANT**

**VERSUS**

1. Central Transmission Utility of India Ltd.  
CTU-Planning (1st Floor-A Wing), Saudamini,  
Plot No. - 2, Sector- 29,  
Near IFFCO Chowk Metro Station,  
Gurgaon-122 001

**...RESPONDENT NO. 1**

2. REC Power Development and Consultancy Limited  
D-Block, REC Headquarter, Plot No. I-4, Sector 29,  
Gurgaon-122001

**...RESPONDENT NO. 2**

**APPLICANT/ Ishanagar Power Transmission Limited**



Place: Noida

Date: 16.02.2024

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

**PETITION NO. \_\_\_\_/TL/2024**

**IN THE MATTER OF:**

*Petition under Sections 14, 15 and 79(1)(e) of Electricity Act, 2003 read with the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2009 seeking grant of Transmission License for Ishanagar Power Transmission Limited.*

**AND IN THE MATTER OF:**

Ishanagar Power Transmission Limited

...PETITIONER

*Versus*

Central Transmission Utility of India Ltd. and Anr.

...RESPONDENTS

**PETITION UNDER SECTION UNDER SECTIONS 14, 15, 79 (1) (e) OF THE  
ELECTRICITY ACT, 2003 FOR GRANT OF TRANSMISSION LICENSE**

**MOST RESPECTFULLY SHOWETH:**

**I. CONSPECTUS**

1. The Petitioner, Ishanagar Power Transmission Limited has approached this Hon'ble Commission by way of the present Petition filed under Sections 14, 15 and 79 (1) (e) of the Electricity Act, 2003 (hereinafter "**Electricity Act**") read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2009 (hereinafter referred to as "**CERC Transmission Licence**")



**Regulations**) for grant of Transmission Licence in order to implement the transmission project viz. Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” (**Project**).

2. The Petitioner is a Special Purpose Vehicle which was acquired by a consortium of IndiGrid 1 Ltd. and IndiGrid 2 Ltd. (**the Consortium**) which was selected as the Successful Bidder in the Tariff-Based Competitive Bidding process (**TBCB**) conducted by REC Power Development and Consultancy Limited. (**Respondent No. 2** / **RECPDCL**) i.e., Bid Process Co-ordinator (**BPC**), to establish the Inter-State Transmission Project on the basis of International competitive bidding in accordance with the “Tariff Based Competitive Bidding Guidelines for Transmission Service” (**TBCB Guidelines**) and “Guidelines for Encouraging Competition in Development of Transmission Projects” issued by Ministry of Power, Government of India (**MoP**) under Section 63 of the Electricity Act and as amended from time to time.
3. The need for implementation of the Project was discussed in the 11<sup>th</sup> Meeting of the National Commission on Transmission (**NCT**) (as held on 28.12.2022 and 17.01.2023), wherein construction of New Transmission Schemes was submitted by CTUIL for consideration of the 11<sup>th</sup> NCT which *inter-alia* included the present Project.
4. In view thereof, RECPDCL, being the BPC, issued the Request for Proposal dated 22.05.2023 (**RfP**) for selection of a Transmission Service Provider (**TSP**) for the establishment of the Project on a build, own, operate & transfer



("BOOT") basis. As per Clause 2 of the RfP read with its subsequent amendments from time to time, the Project comprises of the following elements:

S.No.	Name of Transmission Element	Scheduled COD in months from Effective Date
1.	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV &amp; 1x125 MVA, 420 kV bus reactor</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV, 1500 MVA ICT – 2 Nos.(7x500 MVA 1-phase units including one spare ICT unit)</li> <li>➤ 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>➤ 765 kV ICT bays – 2 Nos.</li> <li>➤ 400 kV ICT bays – 4 Nos.</li> <li>➤ 220 kV ICT bays – 2 Nos.</li> <li>➤ 765 kV Line bays – 2 Nos.</li> <li>➤ 330 MVA, 765 kV Bus Reactor – 1 No. (4x 110 MVA including one spare unit)</li> <li>➤ 125 MVA, 420 kV Bus reactor – 1 No.</li> <li>➤ 765 kV Bus reactor bay: 1 No.</li> <li>➤ 400 kV Bus reactor bay: 1 No.</li> <li>➤ 220 kV Bus coupler bay- 1 No.</li> <li>➤ 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> </ul>	24 months



S.No.	Name of Transmission Element	Scheduled COD in months from Effective Date
	<p>➤ 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</p> <p>Future provisions:</p> <p>Space for</p> <p>➤ 765/400 kV ICT along with bays- 4 Nos.</p> <p>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</p> <p>➤ 765 kV Bus Reactor along with bay: 3 Nos.</p> <p>➤ 765 kV Sectionalizer: 1 set</p> <p>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</p> <p>➤ 400/220 kV ICT along with bays -7 Nos.</p> <p>➤ 400 kV Bus Reactor along with bays: 3 Nos.</p> <p>➤ 400 kV Sectionalization bay: 1- set</p> <p>➤ 220 kV line bays: 12 Nos.</p> <p>➤ 220 kV Sectionalization bay: 2 sets</p> <p>➤ 220 kV BC and TBC: 2 Nos</p>	
2.	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	

#220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar



*(Chhatarpur –Tikamgarh 220 kV 2nd ckt is currently under implementation)*

**Note:**

- (i) Implementation timeframe: 24 months from date of SPV transfer.
- (ii) MPPTCL shall execute downstream network in matching time-frame of ISTS system.

5. The Petitioner was incorporated on 09.06.2024 by RECPDCL as its wholly owned subsidiary to initiate the activities for execution of the Project and subsequently to act as TSP after being acquired by the successful bidder selected through TBCB process. A copy of the Certificate of Incorporation of the Petitioner company is annexed herewith and marked as **ANNEXURE P/1**, and a copy of the Memorandum of Association & Articles of Association of the Petitioner Company is annexed herewith and marked as **ANNEXURE P/2 (Colly)**.
6. Notably, the Consortium, i.e., the current holding companies of the Petitioner participated in the aforesaid bidding process and subsequently, on 22.12.2023, the Consortium was declared as the successful bidder by RECPDCL, in pursuance to the e-reverse auction (held on 22.12.2023), with the lowest levelized transmission Charges. Accordingly, a letter of intent dated 29.12.2023 (“**Lol**”) was issued by RECPDCL to the Consortium.
7. It is relevant to note the Clause 2.15.4 of the RfP mandates the TSP to apply to this Hon’ble Commission for grant of Transmission License, under Section 14 and 15 of the Electricity Act within five (5) working days of acquiring of the Petitioner (previously a wholly owned subsidiary of RECPDCL before its



acquisition by the Consortium), which was incorporated as a Special Purpose Vehicle (“SPV”) for implementation of the Project.

8. In view thereof, the present Petition is being preferred by the Petitioner seeking grant of the Transmission License for implementation of the Project.

## II. DESCRIPTION OF THE PARTIES

9. The Petitioner i.e., Ishanagar Power Transmission Limited (“DPTL”) was a wholly owned subsidiary of RECPDCL and was incorporated as an SPV for implementation of the Project. The Petitioner was acquired by the Consortium after being declared as a successful (i.e., L1) bidder in the bidding process conducted by RECPDCL for selection of a TSP for establishment of the Project.

- 9.1. Respondent No. 1 i.e., Central Transmission Utility of India Limited (“CTUIL”) is notified to undertake the functions of Central Transmission Utility as provided under Section 38 of the Electricity Act and discharging, *inter-alia*, functions of planning and co-ordination pertaining to ISTS with all the concerned authorities.

- 9.2. Respondent No. 2 i.e., RECPDCL is a wholly owned subsidiary of REC Ltd., and is a company incorporated under the Companies Act, 1956. On 13.04.2023, MoP notified RECPDCL as the BPC for the purpose of selection of Bidder as TSP to establish Inter-State Transmission System for construction of the Project through tariff based competitive bidding process.

## III. JURISDICTION





10. This Hon'ble Commission has the jurisdiction to adjudicate upon the present Petition and grant transmission under Sections 14 of the Electricity Act.

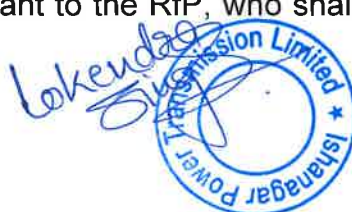
#### IV. FACTS AND ISSUES FOR CONSIDERATION

11. The relevant facts and issues for the kind consideration of this Hon'ble Commission are as follows:

11.1. On 28.12.2022 and 17.01.2023, the 11<sup>th</sup> Meeting of the NCT was held, wherein construction of New Transmission Schemes was submitted by CTUIL for consideration of the 11<sup>th</sup> NCT, and the said Schemes *inter-alia* included the present Project. A copy of the Minutes of Meeting of 11<sup>th</sup> NCT is annexed hereto and marked as **ANNEXURE P/3**.

11.2. On 13.04.2023, MoP *vide* its Gazette Notification No. CG-DL-E-15042023-245170 notified RECPDCL to be the BPC for the purpose of selection of Bidder as a TSP to establish an Inter-State transmission system for construction of the Project in accordance with the TBCB Guidelines dated 10.08.2021, issued by MoP under Section 63 of the Electricity Act (Refer Sr. No. 3 of the Gazette Notification). A copy of the Gazette Notification dated 13.04.2023 issued by MoP, GoI is annexed hereto and marked as **ANNEXURE P/4**.

11.3. On 22.05.2023, RECPDCL issued the RfP for selection of Bidder as a TSP through TBCB process in order to establish Inter-State Transmission System for "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C". One of the main objectives of the bidding process was to select a successful bidder pursuant to the RfP, who shall acquire one hundred



percent (100%) of the equity shares of the Petitioner for construction of the Project. A copy of the RfP dated 22.05.2023 is annexed herewith and marked as **ANNEXURE P/5**.

- 11.4. On 09.06.2023, the Petitioner was incorporated under the provisions of the Companies Act, 2013 by RECPDCL as its 100% wholly owned subsidiary to initiate the activities for undertaking pre-bid obligations in relation to the execution of the Project and subsequently to act as the TSP.
- 11.5. It is relevant to note that RECPDCL issued certain amendments to the RfP *inter alia*, extending the date of bid submission for the Project . As per the amendment dated 13.11.2023 the final due date for submission of online RfP bids through the electronic bidding platform for the Project was 28.11.2023. Also, the RfP (Technical) Bids were supposed to be opened on 28.11.2023. Copies of the Amendments to the RFP dated 24.07.2023, 23.08.2023, 25.09.2023\_, 27.09.2023, 25.10.2023 and 13.11.2023 are annexed herewith and marked as **ANNEXURE P/6 (Colly.)**.
- 11.6. On 19.09.2023, 27.09.2023, 13.11.2023 and 17.11.2023, RECPDCL issued clarifications to the RfP documents, (as raised by the bidders). Copies of the clarifications dated 19.09.2023, 27.09.2023, 13.11.2023 and 17.11.2023 issued by RECPDCL to the bidders are annexed herewith and marked as **ANNEXURE P/7 (Colly.)**.
- 11.7. On 20.10.2023, RECPDCL *vide* its letter to IGL2 issued the copy of the finalised Transmission Service Agreement ("**TSA**") (which is an agreement between the CTUIL and the Petitioner) in terms of Clause 1.6.2.1 (6) of

Lokendra  
Sug  
Transmission Limited  
Ishanagar Power

the RfP. A copy of the letter dated 20.10.2023 issued by RECPDCL to IGL2 along with finalised TSA is annexed herewith and marked as **ANNEXURE P/8.**

- 11.8. Subsequently, the Bid Evaluation Committee (“**BEC**”) held its meeting for evaluation of the bids placed by the bidders wherein the Consortium was declared as the L1 bidder at the quoted Transmission tariff of Rs. 625.88 million per annum. A copy of the Certificate of Bid Evaluation dated 28.12.2023 along with CEA’s letter dated 14.11.2023 constituting the Bid Evaluation Committee are annexed herewith and marked as **ANNEXURE P/9 (Colly.)**. Accordingly, on 29.11.2023, RECPDCL issued the Lol to the Consortium.
- 11.9. Subsequent to the e-Reverse Auction conducted by RECPDCL, the Consortium emerged as the Successful bidder with lowest quoted Transmission tariff. Accordingly, on 29.11.2023, RECPDCL issued the Lol to the Consortium. A copy of the Letter of Intent dated 29.12.2023 issued by RECPDCL to the Consortium is annexed herewith and marked as **ANNEXURE P/10.**
- 11.10. In terms of the Lol, the Consortium was required to unconditionally accept the terms of the Lol within seven (7) days of the issuance of the Lol. Accordingly, the Consortium *vide* its email dated 03.01.2024 to RECPDCL, issued the unconditional acceptance copy of the Lol. A copy of the email dated 03.01.2024 issued by the Consortium to RECPDCL is annexed herewith and marked as **ANNEXURE P/11.**



11.11. It is pertinent to note that Clauses 2.15.2, 2.15.3 and 2.15.4 of the RfP provide for a timelines after issuance of the Lol, which requires the successful bidder to *inter alia* acquire the SPV i.e., the Petitioner within 10 days from issuance of Lol and further mandates the Petitioner to file petitions before this Hon'ble Commission seeking adoption of tariff and grant of transmission licence, within 5 days of the acquisition of the SPV by the successful bidder i.e., the Consortium. On 09.02.2024, RECPDCL issued a letter to the Consortium extending the time for completing the activities mentioned in Clauses 2.15.2, 2.15.3 and 2.15.4 of the RfP till 16.02.2024. A copy of the letter dated 09.02.2023 is annexed hereto and marked as **Annexure P/12**.

11.12. On 01.02.2024, Ministry of Power, Government of India issued its approval for sale and transfer of Dhule Power Transmission Limited's shares to the Consortium. A copy of the letter dated 01.02.2024 is annexed herewith and marked as **Annexure P/13**.

11.13. On 09.02.2024 the Consortium acquired the Petitioner/SPV after executing the Share Purchase Agreement on 09.02.2024, on payment of the Acquisition Price, along with the execution of the Transmission Service Agreement with Respondent No. 1 on 09.02.2024.

A copy of the signed TSA is annexed herewith as **ANNEXURE P/14** and a copy of the signed Share Purchase Agreement is annexed herewith as **ANNEXURE P/15**.


11.14. It is humbly submitted that in terms of Clause 2.15.4 of the RfP, the present Petition is being filed by the Petitioner within 5 working days from the acquisition of the Petitioner/SPV by the Consortium i.e., on 16.02.2024.

11.15. Further, after complying with all the obligations pertaining to the acquisition of the Petitioner by the Consortium, the Petitioner has also preferred an application/Petition for adoption of transmission charges with respect to the Project under Section 63 of the Electricity Act before this Hon'ble Commission separately, *inter alia* in accordance with the provisions of Clause 2.15.4 of the RfP.

#### V. SUBMISSIONS FOR GRANT OF LICENSE

12. It is submitted that the grant of transmission license is a pre-condition under Section 12 of the Electricity Act, and the Petitioner cannot proceed with the establishment of the Transmission System unless the same is granted to the Petitioner.
13. It is submitted that Regulation 6 of the Transmission License Regulations provide the eligibility criteria for grant of transmission license as under:

*"6. Eligibility for Grant of licence No person shall be eligible for grant of licence unless it is—*

- (a) selected through the process under the guidelines for competitive bidding, or*
- (b) a state owned or controlled company identified as a project developer on or before 5.1.2011, or*
- (c) a generating company which has established the dedicated transmission line, and intends to use such dedicated transmission line as the main transmission line and part of the inter-State transmission system."*

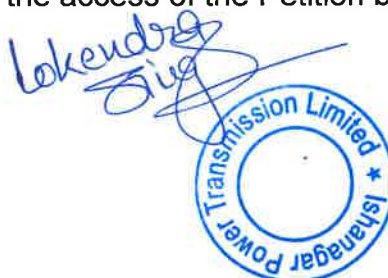


14. As submitted above, the Project has been awarded to the Consortium after selection through competitive bidding process conducted under the bidding guidelines of MoP. And the Petitioner has been duly acquired by the Consortium under the terms of the RfP. Accordingly, the Petitioner is eligible for grant of license under Regulation 6(a) above.
15. It is submitted that Section 14 of the Electricity Act provides that the Appropriate Commission may, on an application made under Section 15 of the Act, grant Licence to any person to transmit electricity as a transmission licensee in any area as may be specified in the Licence. The word 'person' has been defined in Section 2(49) of the Electricity Act to include any company or body corporate or association or body of individuals, whether incorporated or not, artificial or juridical person. Therefore, the Petitioner in terms of Sections 14, 15 & 79 (1) (e) of the Electricity Act is filing the present Petition/Application seeking grant of Transmission Licence for the Project explained above.
16. Further, it is submitted that Section 15(1) of the Electricity Act provides that every application under Section 14 shall be made in such manner and in such form as may be specified by the Appropriate Commission and shall be accompanied with such fees as may be prescribed. Having regard to the provisions of the parent Act, this Hon'ble Commission has enacted the CERC Transmission Licence Regulations. This Hon'ble Commission in the said CERC Transmission Licence Regulations has prescribed the form of Application and also the amount of fee for making an application for grant of



Transmission Licence. Accordingly, the Petitioner is submitting the present Petition in such prescribed format along with the fees as per Regulation 7(1) of the said Regulations. A copy of duly filled Form-I is enclosed herewith and marked as **Annexure P/16**.

17. Power of Attorney authorising the signatory to commit has also been passed through this board resolution passed on 09.02.2024. A copy of Board Resolution dated 09.02.2024 enclosed herewith and marked as **Annexure P/17**.
18. It is submitted that a copy of the Petition for grant of Transmission Licence is being forwarded to each of the Respondents in terms of Regulation 7(4) of CERC Transmission Licence Regulations.
19. It is further submitted that the Petitioner is simultaneously submitting/furnishing a copy of the instant Petition to Central Transmission Utility, as required under Section 15 (3) of the Electricity Act and Regulation 7(6) of CERC Transmission Licence Regulations, 2009 seeking appropriate recommendations, if any, in accordance with Section 15 (4) of the Act. In addition, CTUIL is also a party Respondent in the present petition.
20. The present Application/ petition for grant of Transmission Licence is being posted/hosted on its website: <https://www.indigrid.co.in/documents-manager/> as per Regulation 7(5) of CERC Transmission Licence Regulations so as to facilitate the access of the Petition by any person through internet.





21. The Petitioner further craves leave of this Hon'ble Commission to submit relevant information/ documents as and when required to comply with the obligations under the provisions of law.
22. The Petitioner undertakes to comply with all the other requirements as provided in the CERC Transmission License Regulations read with Order dated 22.01.2022 passed in Petition No. 1/SM/2022 in relation to the publication of notices, service on the beneficiaries of the Petitioner's Transmission System. Accordingly, the Petitioner shall place on record the compliance reports before the Hon'ble Commission.
23. The present petition is filed *bona fide* and in the interest of justice.

#### PRAYER

24. The Applicant/ Petitioner hereby humbly prays before this Hon'ble Commission to:
- (a) Issue/Grant the Transmission License to the Applicant/ Petitioner, Ishanagar Power Transmission Limited for establishing, operating and maintaining the Inter-State Transmission System for "*Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C*" comprising of assets elements as detailed in the present petition, in terms of Sections 14, 15 and 79 (1) (e) of the Electricity Act;
- (b) Condone any inadvertent errors omissions/ errors / shortcomings and permit the Applicant to add/change/modify/alter these pleadings and make further submissions as may be required at a future date;



- (c) Pass any such other order / orders, as may be deemed fit and proper in the facts and circumstances of the case.

**Petitioner/Ishanagar Power Transmission Ltd.**

Date: 16.02.2024

Place: NOIDA, UP



**BEFORE THE CENTRAL ELECTRICITY REGULATORY  
COMMISSION, AT NEW DELHI  
PETITION NO. \_\_\_\_/TL/2024**

**IN THE MATTER OF:**

Ishanagar Power Transmission Ltd.

...Applicant

Versus

Central Transmission Utility  
of India Ltd. & Anr.

...Respondents

**AFFIDAVIT**

I, Lokendra Singh Ranawat, Son of Shri B.S. Ranawat, aged about 40 years, being the authorized representative of Ishanagar Power Transmission Ltd., Applicant herein, having my office at Windsor, 1st Floor, Unit no. 101, Kalina, Santacruz East, Mumbai, Maharashtra 400098, presently at Noida, U.P., do hereby solemnly affirm and state as under:

1. That I am the authorized signatory of the Applicant and as such I am fully conversant with the facts and circumstances of the present case and therefore authorised and competent on behalf of the Applicant to swear and affirm this affidavit.
2. I state that I have read and understood the contents of the accompanying Application and the same has been drafted under my instructions and after carefully going through the same, I state that the same are true and correct to the best of my knowledge or belief and it is stated that no part of it is false and nothing material has been concealed there from.
3. I state that the annexures annexed to the accompanying Application, if any, are true copies of their respective originals.


  
**DEPONENT**

**VERIFICATION**

I, the deponent above named do hereby verify that the contents of the above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed there from.

Verified at Noida, Uttar Pradesh on \_\_\_\_\_ day of February, 2024.



**AFFIDAVIT**  
  
**VIRENDRA SINGH**  
Advocate (Notary)  
Distt. Guatam Budh Nagar

  
**DEPONENT**  


**16 FEB 2024**



**GOVERNMENT OF INDIA  
MINISTRY OF CORPORATE AFFAIRS**

Central Registration Centre

**Certificate of Incorporation**

[Pursuant to sub-section (2) of section 7 and sub-section (1) of section 8 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]

I hereby certify that ISHANAGAR POWER TRANSMISSION LIMITED is incorporated on this NINETH day of JUNE TWO THOUSAND TWENTY THREE under the Companies Act, 2013 (18 of 2013) and that the company is Company limited by shares

The Corporate Identity Number of the company is **U42202DL2023GOI415540**

The Permanent Account Number (PAN) of the company is **AAHCI1679R\***

The Tax Deduction and Collection Account Number (TAN) of the company is **DELI18016F\***

Given under my hand at Manesar this NINETH day of JUNE TWO THOUSAND TWENTY THREE

Document certified by DS MINISTRY OF  
CORPORATE AFFAIRS 10 <prccrc@mca.gov.in>

Digitally signed by  
DS MINISTRY OF CORPORATE  
AFFAIRS 10  
Date: 2023.06.30 16:49:32 IST

Vairamuthu Nagarajan

Assistant Registrar of Companies/ Deputy Registrar of Companies/ Registrar of Companies

For and on behalf of the Jurisdictional Registrar of Companies

Registrar of Companies

Central Registration Centre

**Disclaimer:** This certificate only evidences incorporation of the company on the basis of documents and declarations of the applicant(s). This certificate is neither a license nor permission to conduct business or solicit deposits or funds from public. Permission of sector regulator is necessary wherever required. Registration status and other details of the company can be verified on [mca.gov.in](http://mca.gov.in)

Mailing Address as per record available in Registrar of Companies office:

ISHANAGAR POWER TRANSMISSION LIMITED

CORE-4, SCOPE COMPLEX,7, LODHI ROAD,Lodi Road,Delhi,Central Delhi-110003,Delhi

\*as issued by Income tax Department



**Form No. INC-33****e-MOA (e-Memorandum of Association)**

[Pursuant to Schedule I (see Sections 4 and 5) to the Companies Act, 2013]]



Form language

☒ English☐ Hindi

Refer instruction kit for filing the form

All fields marked in \* are mandatory

**\* Table applicable to company as notified under schedule I of the Companies Act, 2013**

(A - MEMORANDUM OF ASSOCIATION OF A COMPANY LIMITED BY SHARES  
B - MEMORANDUM OF ASSOCIATION OF A COMPANY LIMITED BY GUARANTEE AND NOT HAVING A SHARE CAPITAL  
C - MEMORANDUM OF ASSOCIATION OF A COMPANY LIMITED BY GUARANTEE AND HAVING A SHARE CAPITAL  
D - MEMORANDUM OF ASSOCIATION OF AN UNLIMITED COMPANY AND NOT HAVING SHARE CAPITAL  
E - MEMORANDUM OF ASSOCIATION OF AN UNLIMITED COMPANY AND HAVING SHARE CAPITAL)

A - MEMORANDUM OF  
ASSOCIATION OF A COMPANY  
LIMITED BY SHARES

**Table A/B/C/D/E**

1 The name of the company is

ISHANAGAR POWER  
TRANSMISSION LIMITED

2 The registered office of the company will be situated in the State of

Delhi

3 (a) The objects to be pursued by the company on its incorporation are:

1. To plan, promote and develop an integrated and efficient power transmission system network in all its aspects including planning, investigation, research, design and engineering, preparation of preliminary, feasibility and definite project reports, construction, operation and maintenance of transmission lines, sub-stations, load dispatch stations and communication facilities and appurtenant works, coordination of integrated operation of regional and national grid system, execution of turn-key jobs for other utilities/organizations and wheeling of power in accordance with the policies, guidelines and objectives laid down by the Central Government from time to time.

2. To study, investigate, collect information and data, review operation, plan, research, design and prepare Report, diagnose operational difficulties and weaknesses and advise on the remedial measures to

improve, undertake development of new and innovative product connected with business of the Company as well as modernize existing EHV, HV lines and Sub-Stations.

3.To act as consultants, technical advisors, surveyors and providers of technical and other services to Public or Private Sector enterprises engaged in the planning, investigation, research, design and preparations of preliminary, feasibility and definite project reports, manufacture of power plant and equipment, construction, generation, operation and maintenance of power transmission system from power generating stations and projects, transmission and distribution of power.

4.To plan, promote, develop, erect and maintain, operate and otherwise deal in Telecommunication networks and services in all its aspects including planning, investigation, research, design and engineering, preparation of preliminary, feasibility and definite project reports: to purchase, sell, import, export, assemble, manufacture, install, commission, maintain, operate commercially whether on own or along with other, on lease or otherwise. These networks and for such purposes to set up and/ or install all requisite communications facilities and other facilities including fibre optic links, digital microwave links, communication cables, other telecommunication means, telephone and other exchanges, co-axial stations, microwave stations, repeater stations, security system databases, billing systems, subscriber management systems and other communication systems whether consisting of sound, visual impulse, or otherwise, existing or that may be developed or invented in the future and to manufacture, purchase, sell, import, export, assemble, take or



other organizations (whether in Private, Public or Joint Sector Undertaking) and bulk consumers of power etc.

4.To secure the payments of money, receivables on transmission and distribution of electricity and sale of fuel, as the case may be, to the State Electricity Boards, Vidyut Boards, Transmission Utilities, Generating Companies, Transmission Companies, Distribution Companies, State Governments, Licensees, statutory bodies, other organizations (whether in Private, Public or Joint Sector Undertaking) and bulk consumers of power etc. through Letter of Credits/ESCROW and other security documents.

5.To coordinate with the Central Transmission Utility of electricity generated by it under the relevant provisions of Electricity Act 2003 and any amendments thereto.

6.Subject to provisions of Sections 73, 74, 179, 180 & 186 and other applicable provisions of the Companies Act, 2013 and rules made thereunder and subject to other laws or directives, if any, of SEBI/RBI, to borrow money in Indian rupees or foreign currencies and obtain foreign lines of credits/ grants/ aids etc. or to receive money or deposits from public for the purpose of the Company's business in such manner and on such terms and with such rights, privileges and obligations as the Company may think fit. The Company may issue bonds/ debentures whether secured or unsecured; bills of exchange, promissory notes or other securities, mortgage or charge on all or any of the immovable and movable properties, present or future and all or any of the uncalled capital for the time being of the Company as the Company may deem fit and to repay, redeem or pay off any such securities or charges.

7.To lend money on property or on mortgage of immovable properties or against Bank



business which this Company is entitled to carry on or acquisition of undertaking itself which may seem likely or calculated to promote or advance the interests of the Company and to sell or dispose of or transfer any such shares, stocks or securities and the acquired undertaking.

12.To enter into partnership or into any agreement for joint working, sharing or pooling profits, joint venture, amalgamation, union of interests, co-operation, reciprocal concessions or otherwise or amalgamate with any person or company carrying on or engaged in or about to carry on or engaged in any business or transaction in India or abroad which the Company is authorized to carry on or engage in any business undertaking having objects identical or similar to, as are being carried on by this Company.

13.To establish and maintain agencies, branch offices and local agencies, to procure business in any part of India and world and to take such steps as may be necessary to give the Company such rights and privileges in any part of the world as deemed proper in the interest of the Company.

14.To promote and undertake the formation of any institution or Company or subsidiary company or for any aforesaid objects intended to benefit the Company directly or indirectly and to coordinate, control and guide their activities.

15(a).To negotiate and enter into agreements and contracts with domestic and foreign companies, persons or other organizations, banks and financial institutions, in relation to the business of the Company including that of technical know-how, import, export, purchase or sale of plant, machinery, equipment, tools, accessories and consumables, financial assistance and for carrying out all or any of the objects of the Company.

educational institutions, recreation, hospitals and dispensaries, medical and other assistance as the Company may deem fit.

21.To ensure any rights, properties, undertakings, contracts, guarantees or obligations or profits of the Company of every nature and kind in any manner with any person, firm, association, institution or company.

22.To distribute among members of the Company dividend including bonus shares out of profits, accumulated profits or funds and resources of the Company in any manner permissible under law.

23.To institute, conduct, defend, compound or abandon any legal proceedings by or against the Company or its officers or otherwise concerning the affairs of the Company and also to compound and to allow time for payment or satisfaction of any debts or recovery due, claims or demands by or against the Company and to refer any claims or demands by or against the Company or any differences arising in execution of contracts to conciliation and arbitration and to observe, comply with and/or challenge any awards preliminary, interim or final made in any such arbitration.

24.To pay out of the funds of the Company all costs, charges, expenses and preliminary and incidental to the promotion, formation, establishment and registration of the Company or other expenses incurred in this regard.

25.Subject to provisions of Sections 181, 182 & 183 of Companies Act, 2013 to contribute money or otherwise assist to charitable, benevolent, religious, scientific national, defense, public or other institutions or objects or purposes.

26.To open an account or accounts with any individual, firm or company or with any

carried in connection with any of the Company's Objects or calculated directly or indirectly to enhance the value of or render profitable any of the Company's property or rights.

33.To establish, provide, maintain and conduct or otherwise subsidize research laboratories and experimental workshops for scientific, technical or researches, experiments and to undertake and carry on directly or in collaboration with other agencies scientific and technical research experiments and tests of all kinds and to process, improve and invent new products and their techniques of manufacture and to promote, encourage, reward in every manner studies and research, scientific and technical investigations and inventions of any kind that may be considered likely to assist, encourage and promote rapid advances in technology, economies, import substitution or any business which the Company is authorized to carry on.

34.Subject to provisions of the Companies Act, 2013, to evolve scheme for restructuring or arrangement, to amalgamate or merge or to enter into partnership or into any consortium or arrangement for sharing of profits, union of interests, co-operation, joint venture with any Person or Persons, partnership firm/firms, or company or companies carrying on or engaged in any operation capable of being conducted so conveniently in cooperation with the business of the Company or to benefit the Company or to the activities for which the Company has been established.

35.To apply for purchase, or otherwise acquire any trade marks, patents, brevets, inventions, licenses, concessions and the like, conferring any exclusive or nonexclusive or limited rights to use, or any

I, whose name and address is given below, am desirous of forming a company in pursuance of this memorandum of association and agree to take all the shares in the capital of the company:

We, the several persons, whose names and addresses are subscribed, are desirous of being formed into a company in pursuance of this memorandum of association:

Subscriber Details					
S. No.	*Name, Address, Description and Occupation	DIN / PAN / Passport number	No. of shares taken	DSC	Dated
1	SHAMBHU SHANKER GUPTA S/O KESHAWA GUPTA PRASAD NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED, R/O 8/927, VIKAS NAGAR, LUCKNOW-226022, UTTAR PRADESH, OCCUPATION-SERVICE	09816600	1 Equity,0 Preference	Shambhu Shanker Gupta Digitally signed by Shambhu Shanker Gupta Date: 2023.06.06 10:46:54 +05'30'	06/06/2023
2	REC POWER DEVELOPMENT AND CONSULTANCY LIMITED, CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DELHI-110003, THROUGH ITS CEO RAHUL DWIVEDI S/O RAM MURTI DWIVEDI R/O 640, ASIAD GAMES VILLAGE, MARUTI MANE BLOCK, SADIQ NAGAR, NEW DELHI-110049, OCCUPATION-SERVICES	AHWPDP5068L	49994 Equity,0 Preference	Rahul Dwivedi Digitally signed by Rahul Dwivedi Date: 2023.06.06 10:53:08 +05'30'	06/06/2023
3	PUTHIYARKATTU SHIVARAMAN HARIHARAN S/O SHRI PUTHIYARAKAT VELAYUDHAN SIVARAMAN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLAT NO.104, SADAR APARTMENT, MAYUR VIHAR EXTENTION, PHASE-1, PLOT NO.9, NEW DELHI-110091, OCCUPATION-SERVICE	08657652	1 Equity,0 Preference	P S HARIHARAN Digitally signed by P S Hariharan Date: 2023.06.06 10:52:04 +05'30'	06/06/2023
4	MOHAN LAL KUMAWAT S/O SHRI RAMU RAM KUMAWAT NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLAT NO 142 TOWER -1 GC EMERALD, RAMPRASTHA GREENS VAISHALI SECTOR-7, GHAZIABAD-201010, UTTAR PRADESH, OCCUPATION-SERVICE	07682898	1 Equity,0 Preference	Mohan Lal Kumawat Digitally signed by Mohan Lal Kumawat Date: 2023.06.06 10:54:01 +05'30'	06/06/2023
	RAJENDRA KUMAR GUPTA S/O LALLU RAM GUPTA NOMINEE OF REC POWER				06/06/2023

**Ishanagar Power Transmission Ltd**

Core-4, SCOPE Complex,  
7, Lodhi Road  
New Delhi-110003

**Trial Balance**

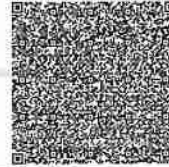
1-Apr-23 to 31-Dec-23

Page 1

Particulars	Opening Balance	Transactions		Closing Balance
		Debit	Credit	
<b>Capital Account</b>				
Share Capital			5,00,000.00	5,00,000.00 Cr
			5,00,000.00	5,00,000.00 Cr
<b>Current Liabilities</b>		3,44,089.00	43,82,294.00	40,38,205.00 Cr
Duties & Taxes		3,44,089.00	3,44,089.00	
TDS PAYABLE		3,44,089.00	3,44,089.00	
Sundry Creditors			40,38,205.00	40,38,205.00 Cr
RECPDCL Creditors			40,38,205.00	40,38,205.00 Cr
<b>Current Assets</b>		5,00,000.00		5,00,000.00 Dr
Bank Accounts		5,00,000.00		5,00,000.00 Dr
ICICI Bank A/c-0021		5,00,000.00		5,00,000.00 Dr
<b>Direct Expenses</b>		8,46,175.00		8,46,175.00 Dr
Advertisemnet Expenses		5,02,102.00		5,02,102.00 Dr
Consultancy Charges		2,65,500.00		2,65,500.00 Dr
MCA/ROC Filling Fees		15,258.00		15,258.00 Dr
Miscellaneous Expenses		21,189.00		21,189.00 Dr
Survey Expenses		42,126.00		42,126.00 Dr
<b>Indirect Expenses</b>		31,92,030.00		31,92,030.00 Dr
Common / Establishment Expenses		6,64,900.00		6,64,900.00 Dr
Interest on Advance		1,22,543.00		1,22,543.00 Dr
Salary Allocated Expenses		24,04,587.00		24,04,587.00 Dr
<b>Grand Total</b>		<b>48,82,294.00</b>	<b>48,82,294.00</b>	

**TAX INVOICE** (ORIGINAL FOR RECIPIENT) e-Invoice

IRN : 51904063dd123880aba33fbfeb1dac1bbb1119e-556b787402e2ed20ebfd40b71  
 Ack No. : 172414160923121  
 Ack Date : 5-Jan-24



<b>REC Power Development &amp; Consultancy Limited</b> (Formerly REC Power Distribution Company Limited) Core-4 Scope Complex 7 Lodhi Road New Delhi GSTIN/UID: 07AADCR7399K1ZN State Name : Delhi, Code : 07 CIN: U40101DL2007GOI165779 E-Mail : fin.delhi@recpdcl.in		Invoice No. <b>DLI/80/23-24</b>		Dated <b>31-Dec-23</b>	
		Reference No. & Date.		Other References	
		Buyer's Order No.		Dated	
Buyer (Bill to) <b>202314-Ishanagar Power Transmission Ltd.</b> Core-4, Scope Complex, 7, Lodhi Road GSTIN/UID : 07AAHCI1679R1ZR State Name : Delhi, Code : 07 Place of Supply : Delhi					

Sl No.	Particulars	HSN/SAC	Rate	per	Amount
1	Indirect cost reimbursable from SPV	998399			1,68,673.00
2	Direct cost reimbursable from SPV	998399			4,81,107.00
3	Manpower cost reimbursable from SPV-Cost of service rendered	998399			5,39,750.00
4	Manpower cost reimbursable from SPV-Employee Benefit Exp	998399			64,753.00
	CGST OUTPUT TAX- DELHI		9 %		1,12,885.00
	SGST OUTPUT TAX -DELHI		9 %		1,12,885.00
<b>Total</b>					<b>₹ 14,80,053.00</b>

Amount Chargeable (in words)  
**INR Fourteen Lakh Eighty Thousand Fifty Three Only**

Remarks:  
 being invoice raised to SPV towards reimbursement income for the Q3 FY 23-24

Company's PAN : **AADCR7399K**

Company's Bank Details  
 Bank Name : **IDFC First Bank**  
 A/c No. : **10000697415**  
 Branch & IFS Code : **Bahadur shah Zafar Marg, New Delhi & IDFB0020101**

(Scan for Payment)

for REC Power Development & Consultancy Limited

Digitally signed on 15-01-2024 12:53:07

Authorised Signatory

SUBJECT TO DELHI JURISDICTION

This is a Computer Generated Invoice



**TAX INVOICE**

(ORIGINAL FOR RECIPIENT)

<b>REC Power Development &amp; Consultancy Limited</b> (Formerly REC Power Distribution Company Limited) Core-4 Scope Complex 7 Lodhi Road New Delhi GSTIN/UIN: 07AADCR7399K1ZN State Name : Delhi, Code : 07 CIN: U40101DL2007GOI165779 E-Mail : fin.delhi@recpdcl.in		Invoice No. <b>DLI/53/23-24</b>		Dated <b>30-Sep-23</b>	
		Reference No. & Date.		Other References	
		Buyer's Order No.		Dated	
Buyer (Bill to) <b>202314-Ishanagar Power Transmission Ltd.</b> Core-4, Scope Complex, 7, Lodhi Road State Name : Delhi, Code : 07 Place of Supply : Delhi					

Sl No.	Particulars	HSN/SAC	Rate	per	Amount
1	<b>Indirect cost reimbursable from SPV</b>	998399			<b>3,94,801.00</b>
2	Manpower cost reimbursable from SPV-Cost of service rendered	998399			<b>13,02,276.00</b>
3	Manpower cost reimbursable from SPV-Employee Benefit Exp	998399			<b>1,31,006.00</b>
4	<b>Direct cost reimbursable from SPV</b>	998399			<b>2,35,991.00</b>
	<b>CGST OUTPUT TAX- DELHI</b>			9 %	<b>1,85,767.00</b>
	<b>SGST OUTPUT TAX -DELHI</b>			9 %	<b>1,85,767.00</b>
<b>Total</b>					<b>₹ 24,35,608.00</b>

Amount Chargeable (in words)  
**INR Twenty Four Lakh Thirty Five Thousand Six Hundred Eight Only**

(Scan for Payment)

Company's Bank Details  
 Bank Name : **IDFC First Bank**  
 A/c No. : **10000697415**  
 Branch & IFS Code : Bahadur shah Zafar Marg, New Delhi & IDFB00020101

Remarks:  
 Being invoice raised to SPV-Ishanagar Power Transmission Ltd for Q2 of reimbursement of exp  
 Company's PAN : **AADCR7399K**

**for REC Power Development & Consultancy Limited**  
  
  
 DILLIP KUMAR ROUT  
 Digitally signed on  
 16-09-2024 16:47:47  
 Authorised Signatory

SUBJECT TO DELHI JURISDICTION

This is a Computer Generated Invoice





23103017450015463141

## Form No. 27A

Form for furnishing information with the statement of deduction / collection of tax at source ( tick whichever is applicable ) filed on computer media for the period Q2  
(From 01/07/23 to 30/09/23 (dd/mm/yy)#)

1 (a) Tax Deduction Account No. DELI18016F  
(b) Permanent Account No. AAHCH1679R  
(c) Form No. 26Q

(d) Financial Year 2023-24  
(e) Assessment year 2024-25  
(f) Previous receipt number NA  
(In case return/statement has been filed earlier)

## 2 Particulars of the deductor / collector

(a) Name	ISHANAGAR POWER TRANSMISSION LIMITED
(b) Type of deductor*	COMPANY
(c) Branch / division (if any)	HO
(d) Address	
Flat No.	CORE 4 SCOPE COMPEX
Name of the premises/building	7 LODHI ROAD
Road / street / lane	
Area / location	SOUTH EAST DELHI
Town / City / District	LODI ROAD H.O
State	DELHI
Pin code	110003
Telephone No.	-
E-mail	FIN.DELHI@RECPDCL.IN

## 3 Name of the person responsible for deduction / collection of tax

(a) Name	ARVIND KUMAR
(b) PAN	AAHPK0531C
(c) Address	
Flat No.	CORE 4 SCOPE COMPEX
Name of the premises/building	7 LODHI ROAD
Road / street / lane	
Area / location	SOUTH EAST DELHI
Town / City / District	LODI ROAD H.O
State	DELHI
Pin code	110003
Telephone No.	-
E-mail	FIN.DELHI@RECPDCL.IN

## 4 Control totals

Sr. No.	Return Type (Regular / Correction type)	No. of deductee / party records	Amount paid (₹)	Tax deducted / collected (₹)	Tax deposited (Total challan amount) (₹)
1	REGULAR	2	2114365.00	211436.00	211436.00
Total		2	2114365.00	211436.00	211436.00

## 5 Total Number of Annexures enclosed

## 6 Other Information

## VERIFICATION

I, ARVIND KUMAR, hereby certify that all the particulars furnished above are correct and complete.

Place: LODI ROAD H.O

Date: 30/10/2023

\* Mention type of deductor - Government or Others

# dd/mm/yy :- date/month/year

Signature of person responsible for deducting / collecting tax at source

Name and designation of person responsible for deducting / collecting tax at source ARVIND KUMAR, DY. GENERAL KUMAR

**TAX INVOICE**

(ORIGINAL FOR RECIPIENT)

<b>REC Power Development &amp; Consultancy Limited</b> (Formerly REC Power Distribution Company Limited) Core-4 Scope Complex 7 Lodhi Road New Delhi GSTIN/UIN: 07AADCR7399K1ZN State Name : Delhi, Code : 07 CIN: U40101DL2007GOI165779 E-Mail : fin.delhi@recpdcl.in		Invoice No. <b>DLI/81/23-24</b>		Dated <b>31-Dec-23</b>	
		Reference No. & Date.		Other References	
		Buyer's Order No.		Dated	
Buyer (Bill to) <b>202314-Ishanagar Power Transmission Ltd.</b> Core-4, Scope Complex, 7, Lodhi Road GSTIN/UIN : 07AAHCI1679R1ZR State Name : Delhi, Code : 07 Place of Supply : Delhi					
Sl No.	Particulars	HSN/SAC	Rate	per	Amount
1	Interest From SPVs				72,252.00
Total					₹ 72,252.00
Amount Chargeable (in words) <b>INR Seventy Two Thousand Two Hundred Fifty Two Only</b>					
(Scan for Payment) Company's Bank Details Bank Name : <b>IDFC First Bank</b> A/c No. : <b>10000697415</b> Branch & IFS Code : <b>Bahadur shah Zafar Marg, New Delhi &amp; IDFB0020101</b>					
Remarks: being invoice raised to SPV for the QTR 3 FY23-24 towards interest on fund deployed Company's PAN : <b>AADCR7399K</b>					
for REC Power Development & Consultancy Limited  DILLIP KUMAR ROUT Digitally signed on 15-01-2024 12:53:52 Authorised Signatory					

SUBJECT TO DELHI JURISDICTION

This is a Computer Generated Invoice

**Form No. INC-34****e-AOA (e-Articles of Association)**

[Pursuant to Section 5 of the Companies Act, 2013  
and rules made thereunder read with Schedule I]



Form language

☒ English☐ Hindi

Refer instruction kit for filing the form.

All fields marked in \* are mandatory

Table applicable to company as notified under schedule I of the Companies Act, 2013  
(F, G, H)

F

Table F / G / H (basis on the selection of above-mentioned field) as notified under schedule I of  
the companies Act, 2013 is applicable to

(F – a company limited by shares

G – a company limited by guarantee and having a share capital

H – a company limited by guarantee and not having share capital)

F - A COMPANY LIMITED BY  
SHARES

The name of the company is

ISHANAGAR POWER  
TRANSMISSION LIMITED

Check if not applicable	Check if altered	Article No.	Description
			<b>Interpretation</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	I	<ul style="list-style-type: none"> <li>(1) In these regulations- (a) "the Act" means the Companies Act, 2013, (b) "the seal" means the common seal of the company. (2) Unless the context otherwise requires, words or expressions contained in these regulations shall bear the same meaning as in the Act or any statutory modification thereof in force at the date at which these regulations become binding on the company. (3) "Public company" means a company which- (a) is not a private company; (b) has a minimum paid-up share capital as may be prescribed: Provided that a company which is a subsidiary of a company, not being a private company, shall be deemed to be public company for the purposes of this Act even where such subsidiary company continues to be a private company in its articles. ?</li> </ul>
			<b>Share Capital and Variation of rights</b>
<input type="checkbox"/>	<input type="checkbox"/>	II 1	<ul style="list-style-type: none"> <li>Subject to the provisions of the Act and these Articles, the shares in the capital of the company shall be under the control of the Directors who may issue, allot or otherwise dispose of the same or any of them to such persons, in such proportion and on such terms and conditions and either at a premium or at par and at such time as they may from time to time think fit.</li> </ul>
			<ul style="list-style-type: none"> <li>?? Every person whose name is entered as a member in the register</li> </ul>

<input type="checkbox"/>	<input checked="" type="checkbox"/>	2	of members shall be entitled to receive within two months after incorporation, in case of subscribers to the memorandum or after allotment or within one month after the application for the registration of transfer or transmission or within such other period as the conditions of issue shall be provided, one certificate for all his shares without payment of any charges; or several certificates, each for one or more of his shares, upon payment of twenty rupees for each certificate after the first. Every certificate shall be under the seal and shall specify the shares to which it relates and the amount paid - up thereon. In respect of any share or shares held jointly by several persons, the company shall not be bound to issue more than one certificate, and delivery of certificate for a share to one of several joint holders shall be sufficient delivery to all such holders
<input type="checkbox"/>	<input type="checkbox"/>	3	<p>i. If any share certificate be worn out, defaced, mutilated or torn or if there be no further space on the back for endorsement of transfer, then upon production and surrender thereof to the company, a new certificate may be issued in lieu thereof, and if any certificate is lost or destroyed then upon proof thereof to the satisfaction of the company and on execution of such indemnity as the company deem adequate, a new certificate in lieu thereof shall be given. Every certificate under this Article shall be issued on payment of twenty rupees for each certificate.</p> <p>ii. The provisions of Articles(2) and(3) shall mutatis mutandis apply to debentures of the company.</p>
<input type="checkbox"/>	<input type="checkbox"/>	4	Except as required by law, no person shall be recognised by the company as holding any share upon any trust, and the company shall not be bound by, or be compelled in any way to recognise (even when having notice thereof) any equitable, contingent, future or partial interest in any share, or any interest in any fractional part of a share, or (except only as by these regulations or by law otherwise provided) any other rights in respect of any share except an absolute right to the entirety thereof in the registered holder.
<input type="checkbox"/>	<input type="checkbox"/>	5	<p>i. The company may exercise the powers of paying commissions conferred by sub-section (6) of section 40, provided that the rate per cent or the amount of the commission paid or agreed to be paid shall be disclosed in the manner required by that section and rules made thereunder.</p> <p>ii. The rate or amount of the commission shall not exceed the rate or amount prescribed in rules made under sub-section (6) of section 40.</p> <p>iii. The commission may be satisfied by the payment of cash or the allotment of fully or partly paid shares or partly in the one way and partly in the other.</p>
<input type="checkbox"/>	<input type="checkbox"/>	6	<p>i. If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may, subject to the provisions of section 48, and whether or not the company is being wound up, be varied with the consent in writing of the holders of three-fourths of the issued shares of that class, or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class.</p> <p>ii. To every such separate meeting, the provisions of these regulations relating to general meetings shall mutatis mutandis apply, but so</p>

<input type="checkbox"/>	<input type="checkbox"/>	13	<p>respect of any monies unpaid on their shares (whether on account of the nominal value of the shares or by way of premium) and not by the conditions of allotment thereof made payable at fixed times: Provided that no call shall exceed one-fourth of the nominal value of the share or be payable at less than one month from the date fixed for the payment of the last preceding call.</p> <p>ii. Each member shall, subject to receiving at least fourteen days' notice specifying the time or times and place of payment, pay to the company, at the time or times and place so specified, the amount called on his shares.</p> <p>iii. A call may be revoked or postponed at the discretion of the Board.</p>
<input type="checkbox"/>	<input type="checkbox"/>	14	A call shall be deemed to have been made at the time when the resolution of the Board authorizing the call was passed and may be required to be paid by instalments.
<input type="checkbox"/>	<input type="checkbox"/>	15	The joint holders of a share shall be jointly and severally liable to pay all calls in respect thereof.
<input type="checkbox"/>	<input type="checkbox"/>	16	<ul style="list-style-type: none"> <li>If a sum called in respect of a share is not paid before or on the day appointed for payment thereof, the person from whom the sum is due shall pay interest thereon from the day appointed for payment thereof to the time of actual payment at ten per cent per annum or at such lower rate, if any, as the Board may determine.</li> <li>The Board shall be at liberty to waive payment of any such interest wholly or in part.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	17	<p>i. Any sum which by the terms of issue of a share becomes payable on allotment or at any fixed date, whether on account of the nominal value of the share or by way of premium, shall, for the purposes of these regulations, be deemed to be a call duly made and payable on the date on which by the terms of issue such sum becomes payable.</p> <p>ii. In case of non-payment of such sum, all the relevant provisions of these regulations as to payment of interest and expenses, forfeiture or otherwise shall apply as if such sum had become payable by virtue of a call duly made and notified.</p>
<input type="checkbox"/>	<input type="checkbox"/>	18	<ul style="list-style-type: none"> <li>The Board -</li> <li>a. may, if it thinks fit, receive from any member willing to advance the same, all or any part of the monies uncalled and unpaid upon any shares held by him and</li> <li>b. upon all or any of the monies so advanced, may (until the same would, but for such advance, become presently payable) pay interest at such rate not exceeding, unless the company in general meeting shall otherwise direct, twelve per cent per annum, as may be agreed upon between the Board and the member paying the sum in advance.</li> </ul>
			<b>Transfer of shares</b>
<input type="checkbox"/>	<input type="checkbox"/>	19	<p>i. The instrument of transfer of any share in the company shall be executed by or on behalf of both the transferor and transferee.</p> <p>ii. The transferor shall be deemed to remain a holder of the share until the name of the transferee is entered in the register of members in respect thereof.</p>

			the notice or transfer were a transfer signed by that member.
<input type="checkbox"/>	<input type="checkbox"/>	26	<ul style="list-style-type: none"> <li>A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the company;</li> <li>Provided that the Board may, at any time, give notice requiring any such person to elect either to be registered himself or to transfer the share, and if the notice is not complied with within ninety days, the Board may thereafter withhold payment of all dividends, bonuses or other monies payable in respect of the share, until the requirements of the notice have been complied with.</li> </ul>
<input checked="" type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	27	In case of a One Person Company?
			<b>Forfeiture of shares</b>
<input type="checkbox"/>	<input type="checkbox"/>	28	If a member fails to pay any call, or instalment of a call, on the day appointed for payment thereof, the Board may, at any time thereafter during such time as any part of the call or instalment remains unpaid, serve a notice on him requiring payment of so much of the call or instalment as is unpaid, together with any interest which may have accrued.
<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	29	<ul style="list-style-type: none"> <li>The notice aforesaid shall?</li> <li>name a further day (not being earlier than the expiry of fourteen days from the date of service of the notice) on or before which the payment required by the notice is to be made; and</li> <li>state that, in the event of non-payment on or before the day so named, the shares in respect of which the call was made shall be liable to be forfeited.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	30	If the requirements of any such notice as aforesaid are not complied with, any share in respect of which the notice has been given may, at any time thereafter, before the payment required by the notice has been made, be forfeited by a resolution of the Board to that effect.
<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	31	<ul style="list-style-type: none"> <li>i. A forfeited share may be sold or otherwise disposed of on such terms and in such manner as the Board thinks fit.</li> <li>ii. At any time before a sale or disposal as aforesaid, the Board may cancel the forfeiture on such terms as it thinks fit.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	32	<ul style="list-style-type: none"> <li>i. A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares, but shall, notwithstanding the forfeiture, remain liable to pay to the company all monies which, at the date of forfeiture, were presently payable by him to the company in respect of the shares.</li> <li>ii. The liability of such person shall cease if and when the company shall have received payment in full of all such monies in respect of the shares.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>		<ul style="list-style-type: none"> <li>i. A duly verified declaration in writing that the declarant is a director, the manager or the secretary, of the company, and that a share in the company has been duly forfeited on a date stated in the declaration, shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to the share;</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>		



		38	<p>with, and subject to, any incident authorised and consent required by law, ?</p> <ul style="list-style-type: none"> <li>• it share capital;</li> <li>• any capital redemption reserve account; or</li> <li>• any share premium account.</li> </ul>
			<b>Capitalisation of profits</b>
<input type="checkbox"/>	<input type="checkbox"/>	39	<ul style="list-style-type: none"> <li>• The company in general meeting may, upon the recommendation of the Board, resolve?</li> <li>• that it is desirable to capitalise any part of the amount for the time being standing to the credit of any of the company's reserve accounts, or to the credit of the, profit and loss account, or otherwise available for distribution; and</li> <li>• that such sum be accordingly set free for distribution in the manner specified in clause (ii) amongst the members who would have been entitled thereto, if distributed by way of dividend and in the same proportions.</li> <li>• The sum aforesaid shall not be paid in cash but shall be applied, subject to the provision contained in clause (iii), either in or towards?</li> <li>• paying up any amounts for the time being unpaid on any shares held by such members respectively;</li> <li>• paying up in full, unissued shares of the company to be allotted and distributed, credited as fully paid-up, to and amongst such members in the proportions aforesaid;</li> <li>• partly in the way specified in sub-clause (A) and partly in that specified in sub-clause (B);</li> <li>• A securities premium account and a capital redemption reserve account may, for the purposes of this regulation, be applied in the paying up of unissued shares to be issued to members of the company as fully paid bonus shares;</li> <li>• The Board shall give effect to the resolution passed by the company in pursuance of this regulation.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	40	<p>i. Whenever such a resolution as aforesaid shall have been passed, the Board shall?</p> <ol style="list-style-type: none"> <li>a. make all appropriations and applications of the undivided profits resolved to be capitalised thereby, and all allotments and issues of fully paid shares if any; and</li> <li>b. generally do all acts and things required to give effect thereto.</li> </ol> <p>ii. The Board shall have power?</p> <ol style="list-style-type: none"> <li>a. to make such provisions, by the issue of fractional certificates or by payment in cash or otherwise as it thinks fit, for the case of shares becoming distributable in fractions; and</li> <li>b. to authorise any person to enter, on behalf of all the members entitled thereto, into an agreement with the company providing for the allotment to them respectively, credited as fully paid-up, of any further shares to which they may be entitled upon such capitalisation, or as the case may require, for the payment by the company on their behalf, by the application thereto of their respective proportions of profits resolved to be capitalised, of the amount or any part of the amounts remaining unpaid on their existing shares;</li> </ol>



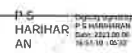
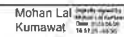
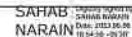
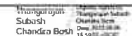
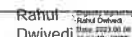
			business to be transacted at an adjourned meeting.
			<b>Voting rights</b>
<input type="checkbox"/>	<input type="checkbox"/>	50	<ul style="list-style-type: none"> <li>Subject to any rights or restrictions for the time being attached to any class or classes of shares,?</li> <li>on a show of hands, every member present in person shall have one vote; and</li> <li>on a poll, the voting rights of members shall be in proportion to his share in the paid-up equity share capital of the company.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	51	A member may exercise his vote at a meeting by electronic means in accordance with section 108 and shall vote only once.
<input type="checkbox"/>	<input type="checkbox"/>	52	<ul style="list-style-type: none"> <li>i. In the case of joint holders, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders.</li> <li>ii. For this purpose, seniority shall be determined by the order in which the names stand in the register of members.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	53	A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on a show of hands or on a poll, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.
<input type="checkbox"/>	<input type="checkbox"/>	54	Any business other than that upon which a poll has been demanded maybe proceeded with, pending the taking of the poll.
<input type="checkbox"/>	<input type="checkbox"/>	55	No member shall be entitled to vote at any general meeting unless all calls or other sums presently payable by him in respect of shares in the company have been paid
<input type="checkbox"/>	<input type="checkbox"/>	56	<ul style="list-style-type: none"> <li>i. No objection shall be raised to the qualification of any voter except at the meeting or adjourned meeting at which the vote objected to is given or tendered, and every vote not disallowed at such meeting shall be valid for all purposes.</li> <li>ii. Any such objection made in due time shall be referred to the Chairperson of the meeting, whose decision shall be final and conclusive.</li> </ul>
			<b>Proxy</b>
<input type="checkbox"/>	<input type="checkbox"/>	57	The instrument appointing a proxy and the power-of-attorney or other authority, if any, under which it is signed or a notarised copy of that power or authority, shall be deposited at the registered office of the company not less than 48 hours before the time for holding the meeting or adjourned meeting at which the person named in the instrument proposes to vote, or, in the case of a poll, not less than 24 hours before the time appointed for the taking of the poll; and in default the instrument of proxy shall not be treated as valid.
<input type="checkbox"/>	<input type="checkbox"/>	58	An instrument appointing a proxy shall be in the form as prescribed in the rules made under section 105
<input type="checkbox"/>	<input type="checkbox"/>	59	<ul style="list-style-type: none"> <li>A vote given in accordance with the terms of an instrument of proxy shall be valid, notwithstanding the previous death or insanity of the principal or the revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the shares in respect of which the proxy is given:</li> <li>Provided that no intimation in writing of such death, insanity, revocation or transfer shall have been received by the company at</li> </ul>

			Section 161 and other applicable provisions (if any) of the Act, the Board shall have power at any time and from time to time, to appoint a person as an Additional Director but so that the total number of Directors shall not at any time exceed the maximum number fixed by these Articles. The Additional Director so appointed shall retire from Office at next annual General Meeting but shall be eligible for election by the company at that meeting as a Director.
<input type="checkbox"/>	<input type="checkbox"/>	61	<ul style="list-style-type: none"> <li>The remuneration of the directors shall, in so far as it consists of a monthly payment, be deemed to accrue from day-to-day.</li> <li>In addition to the remuneration payable to them in pursuance of the Act, the directors may be paid all travelling, hotel and other expenses properly incurred by them?</li> <li>in attending and returning from meetings of the Board of Directors or any committee thereof or general meetings of the company; or</li> <li>in connection with the business of the company.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	62	The Board may pay all expenses incurred in getting up and registering the company.
<input type="checkbox"/>	<input type="checkbox"/>	63	The company may exercise the powers conferred on it by section 88 with regard to the keeping of a foreign register; and the Board may (subject to the provisions of that section) make and vary such regulations as it may think fit respecting the keeping of any such register.
<input type="checkbox"/>	<input type="checkbox"/>	64	All cheques, promissory notes, drafts, hundis, bills of exchange and other negotiable instruments, and all receipts for monies paid to the company, shall be signed, drawn, accepted, endorsed, or otherwise executed, as the case may be, by such person and in such manner as the Board shall from time to time by resolution determine
<input type="checkbox"/>	<input type="checkbox"/>	65	Every director present at any meeting of the Board or of a committee thereof shall sign his name in a book to be kept for that purpose.
<input type="checkbox"/>	<input type="checkbox"/>	66	<ul style="list-style-type: none"> <li>i. Subject to the provisions of section 149, the Board shall have power at any time, and from time to time, to appoint a person as an additional director, provided the number of the directors and additional directors together shall not at any time exceed the maximum strength fixed for the Board by the articles.</li> <li>ii. Such person shall hold office only up to the date of the next annual general meeting of the company but shall be eligible for appointment by the company as a director at that meeting subject to the provisions of the Act.</li> </ul>
			<b>Proceedings of the Board</b>
<input type="checkbox"/>	<input type="checkbox"/>	67	<ul style="list-style-type: none"> <li>The Board of Directors may meet for the conduct of business, adjourn and otherwise regulate its meetings, as it thinks fit.</li> <li>A director may, and the manager or secretary on the requisition of a director shall, at any time, summon a meeting of the Board.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	68	<ul style="list-style-type: none"> <li>i. Save as otherwise expressly provided in the Act, questions arising at any meeting of the Board shall be decided by a majority of votes.</li> <li>ii. In case of an equality of votes, the Chairperson of the Board, if any, shall have a second or casting vote.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>		The continuing directors may act notwithstanding any vacancy in the Board; but, if and so long as their number is reduced below the quorum fixed by

		77	<p>chief financial officer so appointed may be removed by means of a resolution of the Board;</p> <ul style="list-style-type: none"> <li>• A director may be appointed as chief executive officer, manager, company secretary or chief financial officer</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	78	A provision of the Act or these regulations requiring or authorising a thing to be done by or to a director and chief executive officer, manager, company secretary or chief financial officer shall not be satisfied by its being done by or to the same person acting both as director and as, or in place of, chief executive officer, manager, company secretary or chief financial officer.
			<b>The Seal</b>
<input type="checkbox"/>	<input type="checkbox"/>	79	<ul style="list-style-type: none"> <li>i. The Board shall provide for the safe custody of the seal.</li> <li>ii. The seal of the company shall not be affixed to any instrument except by the authority of a resolution of the Board or of a committee of the Board authorised by it in that behalf, and except in the presence of at least two directors and of the secretary or such other person as the Board may appoint for the purpose; and those two directors and the secretary or other person aforesaid shall sign every instrument to which the seal of the company is so affixed in their presence.</li> </ul>
			<b>Dividends and Reserve</b>
<input type="checkbox"/>	<input type="checkbox"/>	80	The company in general meeting may declare dividends, but no dividend shall exceed the amount recommended by the Board.
<input type="checkbox"/>	<input type="checkbox"/>	81	Subject to the provisions of section 123, the Board may from time to time pay to the members such interim dividends as appear to it to be justified by the profits of the company.
<input type="checkbox"/>	<input type="checkbox"/>	82	<ul style="list-style-type: none"> <li>i. The Board may, before recommending any dividend, set aside out of the profits of the company such sums as it thinks fit as a reserve or reserves which shall, at the discretion of the Board, be applicable for any purpose to which the profits of the company may be properly applied, including provision for meeting contingencies or for equalizing dividends; and pending such application, may, at the like discretion, either be employed in the business of the company or be invested in such investments (other than shares of the company) as the Board may, from time to time, thinks fit.</li> <li>ii. The Board may also carry forward any profits which it may consider necessary not to divide, without setting them aside as a reserve</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	83	<ul style="list-style-type: none"> <li>i. Subject to the rights of persons, if any, entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid or credited as paid on the shares in respect whereof the dividend is paid, but if and so long as nothing is paid upon any of the shares in the company, dividends may be declared and paid according to the amounts of the shares.</li> <li>ii. No amount paid or credited as paid on a share in advance of calls shall be treated for the purposes of this regulation as paid on the share.</li> <li>iii. All dividends shall be apportioned and paid proportionately to the amounts paid or credited as paid on the shares during any portion or portions of the period in respect of which the dividend is paid; but if any share is issued on terms providing that it shall rank for dividend as from a particular date such share shall rank for dividend</li> </ul>

		91	company against any liability incurred by him in defending any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in which relief is granted to him by the court or the Tribunal.
			<b>Others</b>
		92	

## Subscriber Details

S. No.	Subscriber Details				
	*Name, Address, Description and Occupation	DIN / PAN / Passport number	*Place	DSC	Dated
1	PUTHIYARKATTU SHIVARAMAN HARIHARAN S/O SHRI PUTHIYARAKAT VELAYUDHAN SIVARAMAN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLAT NO.104, SADAR APARTMENT, MAYUR VIHAR EXTENTION, PHASE-1, PLOT NO.9, NEW DELHI-110091, OCCUPATION-SERVICE	08657652	NEW DELHI		06/06/2023
2	MOHAN LAL KUMAWAT S/O SHRI RAMU RAM KUMAWAT NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED FLAT NO 142 TOWER -1 GC EMERALD RAMPRASTHA GREENS VAISHALI SECTOR-7, GHAZIABAD-201010, UTTAR PRADESH, OCCUPATION-SERVICE	07682898	NEW DELHI		06/06/2023
3	RAJENDRA KUMAR GUPTA S/O LALLU RAM GUPTA NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED, R/O 204, MILLENIA HEIGHTS, RAMPRASHTA GREENS, SECTOR-7, VAISHALI, I.E.SAHIBABAD, GHAZIABAD-201010, UTTAR PRADESH, OCCUPATION-SERVICE	06949686	NEW DELHI		06/06/2023
4	SAHAB NARAIN S/O HARI NARAIN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED R/O A-1, FLAT NO 103, SOAMI NAGAR, MALVIYA NAGAR, DELHI-110017, OCCUPATION-SERVICE	03641879	NEW DELHI		06/06/2023
5	THANGARAJAN BOSH S/O SHRI SITHAN THANGARAJAN NOMINEE OF REC POWER DEVELOPMENT AND CONSULTANCY LIMITED R/O APARTMENT NO S-2, MIDDLE PORTION 2-B, JANGPURA, MATHURA ROAD, NEW DELHI-110014, OCCUPATION-SERVICE	02772316	NEW DELHI		06/06/2023
6	REC POWER DEVELOPMENT AND CONSULTANCY LIMITED, CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DELHI-110003, THROUGH ITS CEO RAHUL DWIVEDI S/O RAM MURTI DWIVEDI R/O 640, ASIAD	AHWPDP5068L	NEW DELHI		06/06/2023

I/25992/2023

Annexure P-3



भारत सरकार  
Government of India  
विद्युत मंत्रालय  
Ministry of Power  
केन्द्रीय विद्युत प्राधिकरण  
Central Electricity Authority  
विद्युत प्रणाली योजना एवं मूल्यांकन प्रभाग-II  
Power System Planning & Appraisal Division-II

सेवा में/To

As per list of Addresses

विषय : ट्रांसमिशन पर राष्ट्रीय समिति (एनसीटी) की ग्यारहवीं बैठक के कार्यवृत्त – के सम्बन्ध में।

Subject: Minutes of the 11<sup>th</sup> meeting of National Committee on Transmission (NCT) – regarding.

महोदया (Madam) / महोदय (Sir),

The 11<sup>th</sup> meeting of the "National Committee on Transmission" (NCT) was held on 28<sup>th</sup> December 2022 (1<sup>st</sup> Sitting) and 17<sup>th</sup> January 2023 (2<sup>nd</sup> Sitting). Minutes of the meeting are enclosed herewith.

भवदीय/Yours faithfully,

Encl.: As above.

(ईशान शरण/Ishan Sharan)  
मुख्य अभियंता / Chief Engineer

प्रतिलिपि / Copy to:

Joint Secretary (Trans), Ministry of Power, New Delhi

**List of Addresses:**

1.	Chairperson, Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	2.	Member (Power Systems), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.
3.	Member (Economic & Commercial), Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	4.	Director (Trans), Ministry of Power Shram Shakti Bhawan, New Delhi-110001.
5.	Sh. Dilip Nigam, Scientist ‘G’, MNRE, Block Nos. 14, CGO Complex, Lodhi Road, New Delhi – 110003	6.	Chief Operating Officer, CTUIL, Saudamini, Plot Nos. 2, Sector-29, Gurgaon – 122 001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, Grid Controller of India, B-9, Qutub, Institutional Area, Katwaria Sarai, New Delhi – 110010
9.	Dr. Radheshyam Saha, Ex. Chief Engineer, Central Electricity Authority		

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**Minutes of the 11<sup>th</sup> meeting of National Committee on Transmission (NCT) held on 28<sup>th</sup> December 2022 & 17<sup>th</sup> January 2023**

List of participants is attached as **Annex-I**.

Chairperson, CEA & Chairman, NCT, welcomed the participants and requested Member Secretary, NCT, to take up the agenda points for discussion.

**1 Confirmation of the minutes of the 10<sup>th</sup> meeting of National Committee on Transmission.**

1.1 The minutes of 10<sup>th</sup> meeting of NCT held on 07.11.2022 were issued on 12.12.2022 vide letter Nos.CEA-PS-12-13/3/2019-PSPA-II Division. No comments/observations were received on the minutes. The minutes of the 10<sup>th</sup> meeting were confirmed.

**2 Status of the transmission schemes Noted/approved/recommended to MoP in the 10<sup>th</sup> meeting of NCT:**

2.1 The status of the transmission schemes Noted/approved/recommended to MoP in the 10<sup>th</sup> meeting of NCT is tabulated below:

Sl. No.	Name of the Transmission Scheme	Noted/ Recommended/ Approved	Survey Agency	MoP approval	BPC	Remarks
1.	Transmission Scheme for integration of Renewable Energy Zone (Phase-II) in Koppal-II (Phase-A) and Gadag-II (Phase- A) in Karnataka	Recommended to MoP for implementation through TBCB	RECPDC L	To be approved	To be done by MoP	The two schemes have been clubbed together for bidding purpose with implementation timeframe of 24 months and 36 months respectively
	Transmission Scheme for integration of Renewable Energy Zone (Phase-II) in Koppal-II (Phase-B)					

Sl. No.	Name of the Transmission Scheme	Noted/ Recommended/ Approved	Survey Agency	MoP approval	BPC	Remarks
2.	Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D	Recommended for implementation through RTM route	Not applicable	Required		<p>As the scheme was originally Notified by MoP for implementation through TBCB route, the scheme needed to be de-Notified by MoP. MoP vide Gazette dated 13.01.2023 has de-Notified the same.</p> <p>Suitable OM allocating the scheme to CTUIL for implementation through RTM route to be issued.</p>

### 3 New Transmission Schemes submitted by CTUIL:

#### 3.1 Transmission System for Evacuation of Power from RE Projects in Rajgarh 1000 MW Solar Energy Zone (SEZ) in Madhya Pradesh - Phase-II

3.1.1 Following transmission System for 2.5 GW REZ at Rajgarh (MP) had been evolved as part of 66.5 GW REZs in two phases:

- Ph-I of 1.5 GW: The scheme involves establishment of 3x500 MVA, 400/220 kV ICTs at Pachora PS & Pachora – Bhopal 400 kV D/c line (under implementation with SCoD of 30.11.2023) (out of which generation of 1 GW of Agar / Shajapur Solar Parks has been identified)
- Ph-II of 1 GW: As agreed in 4<sup>th</sup> NCT, the scheme involved augmentation of transformation capacity at Pachora PS by 2x500 MVA, 400/220 kV ICTs (4<sup>th</sup> & 5<sup>th</sup>) & Pachora – Shujalpur 400 kV D/c line and was required to be implemented with RE injection beyond 1.5 GW at Pachora PS.

3.1.2 On request of SECI to take up the implementation of Phase-II of the scheme without waiting for connectivity applications beyond 1.5 GW at Pachora PS, the Phase-II of the scheme was submitted by CTUIL for deliberation in the 10<sup>th</sup> NCT meeting held on 07.11.2022. In the meeting, CTUIL had informed that the scheme was to be reviewed as Shujalpur ICTs & downstream network of MPPTCL were found to be overloaded due to interconnection of Pachora - Shujalpur 400 kV D/c line for evacuation of power from RE Projects in Rajgarh. Accordingly, the scheme was deferred in the 10<sup>th</sup> NCT meeting with the direction to CTUIL to resolve the issues pertaining to MPPTCL's downstream system.

3.1.3 In view of above, a meeting was held on 01.12.2022 amongst CEA, CTUIL, MPPTCL and GRID-INDIA for finalizing above scheme, wherein, augmentation of transformation capacity at Pachora PS by 2x500 MVA, 400/220 kV ICTs (4<sup>th</sup> & 5<sup>th</sup>) & Pachora – Ujjain 400 kV D/c line with total cost of approx. Rs 497 crore was agreed for evacuation of 1 GW power from Pachora PS under Ph-II.

3.1.4 CTUIL informed that to fulfill 'N-1' reliability criteria at Pachora PS, 1x500 MVA (6<sup>th</sup> ICT) is also required. This would result in the total estimated cost to be greater than Rs 500 Cr. Accordingly, CTUIL will submit the scheme for consideration of NCT in the next meeting after discussion of the scheme in WRPC.

3.1.5 Members Noted the above.

#### 3.2 Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III

3.2.1 To enable evacuation of additional 7 GW RE power from Khavda RE park under Phase-III, following system was proposed by CTUIL with estimated cost of Rs 7327 Crore and implementation timeframe of 24 months:

- (i). Establishment of 765 kV Halvad switching station with 765 kV, 2x330 MVAR bus reactors [with 110 MVAR single phase reactor unit as spare unit for bus/line reactors at Halvad]
- (ii). KPS2- Halvad 765 kV D/c line (~220 km length) with 240 MVAR switchable line reactor at both ends and 80 MVAR single phase spare reactor unit at both ends.
- (iii). LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad (LILO route length~30 km)
- (iv). Halvad – Vataman 765 kV D/c line (~170 km length) with 1x330 MVAR switchable line reactor at Vatman end on each ckt.
- (v). Establishment of 765 kV switching station near Vataman with 2x330 MVAR, 765 kV bus reactor [with 110 MVAR 765 kV single phase reactor as spare unit for bus/line reactors at Vataman]
- (vi). LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station (~LILO route length 10 km) along with implementation of Inter-tripping scheme on Vadodara – Vataman 765 kV D/c line section (for tripping of the switchable line reactor at Vadodara end along with the main line breaker).
- (vii). 240 MVAR, 765 kV switchable line reactor on each ckt at Vataman end of Lakadia – Vataman 765 kV D/c line (~260 km length) with NGR bypassing arrangement and associated 80 MVAR single phase spare reactor unit along with implementation of Inter-tripping scheme (for tripping of the switchable line reactor at either end along with the main line breaker)
- (viii). Vataman switching station – Navsari (New) 765 kV D/c line (~200 km length) with 330 MVAR switchable line reactors on each ckt at Navsari (New) end (110 MVAR spare reactor unit at Navsari being implemented by PGCIL, would be used as spare).

- (ix). Augmentation of transformation capacity at Navsari (New) 765/400 kV by 1x1500 MVA (ICT-IV)

Note:

- i. *Transmission system for evacuation of 3 GW RE injection at Khavda is being taken up under Phase-I and 5 GW RE injection is being taken up under Phase-II. Accordingly, Phase-III scheme for evacuation of additional 7 GW RE injection at Khavda is being taken up for evacuation requirement beyond 8 GW from Khavda RE park considering that evacuation requirement has already crossed 8 GW at Khavda (St-II Connectivity: 12.55GW & LTA: 8.682GW as on Nov-22).*
- ii. *330 MVAR 765 kV switchable line reactors on each ckt at Vadodara end of Lakadia – Vadodara 765 kV D/c line (being LILOed at Vataman) already have NGR bypass arrangement so that they may be utilised as bus reactors under outage of the lines.*

3.2.2 Further, following additional space provision for future was proposed at the switching stations:

**Future provisions at Halvad 765 kV Switching Station:**

**Space for**

- 765/400 kV ICT along with bays- 6 Nos.
- 765 kV line bays along with switchable line reactors – 6 Nos.
- 765 kV Bus Reactor along with bay: 2 Nos.
- 765 kV Sectionalizer bay: 1 -set
- 400 kV line bays along with switchable line reactor – 12 Nos.
- 400/220 kV ICT along with bays -8 Nos.
- 400 kV Bus Reactor along with bay: 2 Nos.
- 400 kV Sectionalization bay: 1- set
- 220 kV line bays: 16 Nos.
- 220 kV Sectionalization bay: 2 sets
- 220 kV BC and TBC: 3 Nos.
- STATCOM ( $\pm 300$  MVAR) along with MSC (2x125 MVAR) & MSR (1x125 MVAR): 1 Nos.

**Future provisions at Vataman 765 kV Switching Station:**

**Space for**

- 765/400 kV ICT along with bays- 6 Nos.
- 765 kV line bays along with switchable line reactors – 6 Nos.
- 765 kV Bus Reactor along with bay: 2 Nos.
- 765 kV Sectionalizer bay: 1 -set
- 400 kV line bays along with switchable line reactor – 12 Nos.
- 400/220 kV ICT along with bays -8 Nos.
- 400 kV Bus Reactor along with bay: 2 Nos.

- 400 kV Sectionalization bay: 1- set
- 220 kV line bays: 16 Nos.
- 220 kV Sectionalization bay: 2 sets
- 220 kV BC and TBC: 3 Nos.
- STATCOM ( $\pm 300$  MVar) along with MSC (2x125 MVar) & MSR (1x125 MVar): 1 Nos.
- $\pm 800$  kV 8 GW HVDC (LCC) Converter Station

3.2.3 Route of the proposed transmission lines may infringe some wild life/protected areas as given below:

Sl. No.	Transmission Element	Details w.r.t. Inclusion of any wild life/protected area along the transmission line route
1.	KPS2- Halvad 765 kV D/c line	Route of the line may infringe Kachchh Desert WLS & Wild Ass WLS or its buffer zone in the state of Gujarat. The line may pass through Kachchh Desert WLS & Wild Ass WLS or its buffer zone in the state of Gujarat. However, for details of forest/protected areas survey is required to be done.
2.	LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad	Route of the line may infringe Wild Ass WLS or its buffer zone in the state of Gujarat. The line may pass through Wild Ass WLS or its buffer zone in the state of Gujarat. However, for details of forest/protected areas survey is required to be done.
3.	Halvad – Ahmedabad 765 kV D/c line	Route of the line may infringe Wild Ass WLS or its buffer zone in the state of Gujarat. The line may pass through Wild Ass WLS or its buffer zone in the state of Gujarat. However, for details of forest/protected areas survey is required to be done.
4.	Halvad – Vataman 765 kV D/c line	Route of the line may infringe Nal Sarovar WLS or its buffer zone in the state of Gujarat. The line may pass through Nal Sarovar WLS or its buffer zone in the state of Gujarat. However, for details of forest/protected areas survey is required to be done.
5.	LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station	No major NP, WLS, other protected areas observed. However, for details of other forest/protected areas survey is required to be done.
6.	Vataman switching station – Navsari (New) 765 kV D/c line	No major NP, WLS, other protected areas observed. However, for details of other forest/protected areas survey is required to be done.

3.2.4 Further, following packaging for transmission system was proposed for the scheme:

**Package-A: Total Cost: Rs 3036.77 Cr**

1. Establishment of 765 kV Halvad switching station with 765 kV, 2x330 MVAR bus reactors [with 110 MVAR & 80 MVAR 765 kV single phase reactor (spare unit for bus/line reactors at Halvad)] – Rs 300.07 Cr (*excluding 2 Nos. 765 kV line bays at Halvad for Halvad – Vataman 765 kV D/c line*)
2. KPS2- Halvad 765 kV D/c line (~220 km length) with 240 MVAR switchable line reactor at both ends and 80 MVAR single phase spare reactor unit at KPS2 end. – Rs 2187.33 Cr.
3. LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad (LILO length~30 km) – Rs 549.37 Cr. (*corresponding Line Bays included at S. Nos. 1*)

**Package-B: Total Cost: Rs 1645.03 Cr**

1. Halvad – Vataman 765 kV D/c line (~170 km length) with 1x330 MVAR switchable line reactor at Vatman end on each ckt. (along with line bays at both ends.) – Rs 1645.03 Cr

**Package-C: Total Cost: Rs 2644.98 Cr**

1. Establishment of 765 kV switching station near Vataman with 2x330 MVAR, 765 kV bus reactor [with 110 MVAR 765 kV single phase reactor (spare unit for bus/line reactor) and 80 MVAR 765 kV single phase spare reactor unit for line reactor] – Rs 391.54 Cr. (*excluding 2 Nos. 765 kV line bays at Vataman for Halvad – Vataman 765 kV D/c line*)
2. LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station (~10 km LILO length) along with implementation of Inter-tripping scheme on Vadodara – Vataman 765 kV D/c line section (for tripping of the switchable line reactor at Vadodara end along with the main line breaker). – Rs 176.69 Cr. (*corresponding Line Bays included at S. Nos. 1 above for Vataman S/s*)
3. 240 MVAR 765 kV switchable line reactor on each ckt at Vataman end of Lakadia – Vataman 765 kV D/c line (~260 km length) with NGR bypassing arrangement along with implementation of Inter-tripping scheme (for tripping of the switchable line reactor at either end along with the main line breaker) – Rs 52.40 Cr.
4. Vataman switching station – Navsari (New) 765 kV D/c line (~200 km length) with 330 MVAR switchable line reactors on each ckt at Navsari (New) end. – Rs 1965.84 Cr.
5. Augmentation of transformation capacity at Navsari (New) 765/400 kV by 1x1500 MVA (ICT-IV) – Rs 58.52 Cr.

**Note:** The 330 MVAR 765 kV switchable line reactors on each ckt at Vadodara end of Lakadia – Vadodara 765 kV D/c line (being LILOed at Vataman) already have NGR



*bypass arrangement so that they may be utilised as bus reactors under outage of the lines.*

- 3.2.5 The scheme was discussed in 45<sup>th</sup> meeting of WRPC held on 2<sup>nd</sup> December, 2022, wherein the scheme was in general agreeable to WRPC.
- 3.2.6 On a query from Chairperson, NCT, regarding connectivity applications from RE generators at Khavda, representative from CTUIL informed that they have received Stage-II connectivity applications for 12.55 GW capacity. Transmission system (phase-I) for evacuation of 3 GW RE power from Khavda RE park is under implementation and transmission system (Phase-II) for evacuation of 5 GW RE power from Khavda RE park is under bidding. The proposed transmission system (Phase III) is for evacuation of additional 7 GW RE power from Khavda RE park.
- 3.2.7 Representative from MoP suggested that as the route of the transmission system involves wild life/protected forest areas, eco-sensitive zones etc., the transmission system should be mapped on the PM GatiShakti portal developed by BISAG-N to arrive at feasible route of the transmission line. This would also help in identifying the agencies from which clearance would be required for the transmission system. It was agreed that in future, CTUIL would carry out mapping of proposed transmission system on PM GatiShakti portal and the same would be included as check list in the agenda of NCT.
- 3.2.8 Dr. R. Saha, Expert Member, suggested that rating of STATCOMs should be arrived based on studies. Chairperson, NCT, suggested that with high RE penetration in the grid, dynamic reactive power compensation requirement needs to be assessed. He requested GRID-INDIA and CTUIL to look into the matter. This view was also supported by SECI.
- 3.2.9 CMD, GRID-INDIA stated that transmission towers in coastal areas should be designed keeping in mind the recommendations given in the report of the task force on 'Cyclone Resilient Infrastructure'. It was informed that the recommendations of the task force have already been incorporated in the technical specifications of transmission lines given in RfP Document.
- 3.2.10 It was also discussed that presently, space provision for  $\pm 800$  kV, 8 GW HVDC (LCC) Converter Station at Vataman 765 kV switching station is Not required. The space can be acquired at the time of implementation of HVDC.
- 3.2.11 Chairperson, NCT, stated that the proposed Package-B comprises of only the Halvad – Vataman 765 kV D/c line along with associated bays, and delay in implementation of the line may lead to Non-utilisation of both switching stations. He suggested for clubbing this package with Package-C. It was also agreed that as Navsari S/stn is already under implementation, the ICT augmentation proposed at Navsari s/s under package-C may be implemented through RTM mode by the developer of Navsari S/stn. Further, the proposed inter-tripping schemes associated with existing transmission lines may also be enabled by the existing owner.

3.2.12 After detailed deliberations, NCT recommended the following packages for “Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III” to be implemented under TBCB route:

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part A  Est. Cost: Rs 3036.77 Crs  Implementation timeframe: 24 months from SPV transfer.	• Recommended for implementation through TBCB route	The schemes have been planned for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III.
2.	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B  Est. Cost: Rs 4231.49 Crs  Implementation timeframe: 24 months from SPV transfer.	• Recommended for implementation through TBCB route	

Detailed scope of the schemes are as under:

**A. Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part A (Total Cost: Rs 3036.77 Crs)**

Sl. No.	Scope of the Transmission Scheme	Capacity / line length km
1.	Establishment of 765 kV Halvad switching station with 765 kV, 2x330 MVA bus reactors  <b>Future Scope:</b> Space for <ul style="list-style-type: none"> <li>• 765/400 kV ICT along with bays- 6 Nos.</li> <li>• 765 kV line bays along with switchable line reactors – 6 Nos.</li> <li>• 765 kV Bus Reactor along with bay: 2 Nos.</li> <li>• 765 kV Sectionalizer bay: 1 set</li> <li>• 400 kV line bays along with switchable line reactor – 12 Nos.</li> </ul>	330 MVAR, 765 kV bus reactors - 2 (7x110 MVA single phase reactor units including 1 spare unit)  765 kV bus reactor bays- 2  765 kV line bays- 6 (for lines at Sl. 2 & 5)

Sl. No.	Scope of the Transmission Scheme	Capacity / line length km
	<ul style="list-style-type: none"> <li>400/220 kV ICT along with bays - 8 Nos.</li> <li>400 kV Bus Reactor along with bays: 2 Nos.</li> <li>400 kV Sectionaliser bay: 1 set</li> <li>220 kV line bays: 16 Nos.</li> <li>220 kV Sectionaliser bay: 2 sets</li> <li>220 kV BC and TBC: 3 Nos.</li> <li>STATCOM (<math>\pm 300</math> MVar) along with MSC (2x125 MVar) &amp; MSR (1x125 MVar) alongwith associated bays: 1 Nos.</li> </ul>	
2.	KPS2 (GIS) - Halvad 765 kV D/c line	Route length: 220 km
3.	240 MVar switchable line reactor on each ckt at both ends of KPS2- Halvad 765 kV D/c line.	<ul style="list-style-type: none"> <li>240 MVar, 765 kV switchable line reactors- 4 [2 at KPS2(GIS) &amp; 2 at Halvad]</li> <li>Switching equipment for 765 kV line reactors- 4 [2 at KPS2 (GIS) &amp; 2 at Halvad]</li> <li>80 MVar, 765 kV, single phase spare reactor unit at KPS2 (GIS)</li> <li>80 MVar, 765 kV, single phase spare reactor unit at Halvad S/s</li> </ul>
4.	2 Nos. of 765 kV GIS line bays at KPS2 for termination of KPS2 - Halvad 765 kV D/c line	<ul style="list-style-type: none"> <li>765 kV line bays (GIS) – 2 Nos. [for KPS2(GIS) end]</li> </ul>
5.	LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad	LILO route length: 30 km (120 ckm)

Note: Developer of KPS2 to provide space for implementation of 2 Nos. of 765 kV line bays alongwith switchable line reactors for termination of KPS2(GIS) - Halvad 765 kV D/c line

**B. Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B (Total Cost: Rs 4231.49 Crs)**

Sl. No.	Scope of the Transmission Scheme	Capacity / line length km
1. 1.	<p>Establishment of 765 kV switching station near Vataman with 2x330 MVar, 765 kV bus reactors</p> <p><b>Future Scope:</b></p> <p>Space for</p> <ul style="list-style-type: none"> <li>765/400kV ICT along with bays- 6 Nos.</li> <li>765 kV line bays along with switchable</li> </ul>	<p>330 MVAR 765 kV bus reactors-2 (7x110 MVar single phase reactor units including 1 spare unit for line/bus reactor)</p> <p>765 kV bus reactor bays- 2</p>

Sl. No.	Scope of the Transmission Scheme	Capacity / line length km
	line reactors – 6 Nos. <ul style="list-style-type: none"> <li>765kV Bus Reactor along with bay: 2 Nos.</li> <li>765kV Sectionalizer bay: 1 -set</li> <li>400 kV line bays along with switchable line reactor – 12 Nos.</li> <li>400/220kV ICT along with bays -8 Nos.</li> <li>400 kV Bus Reactor along with bay: 2 Nos.</li> <li>400 kV Sectionalization bay: 1- set</li> <li>220 kV line bays: 16 Nos.</li> <li>220 kV Sectionalization bay: 2 sets</li> <li>220 kV BC and TBC: 3 Nos.</li> <li>STATCOM (<math>\pm 300</math> MVar) along with MSC (2x125 MVar) &amp; MSR (1x125 MVar) alongwith associated bays: 1 Nos.</li> </ul>	765 kV line bays- 8 (for lines at Sl. 2, 5 & 7)
2.	Halvad – Vataman 765 kV D/c line	Route length: 170 km
3.	1x330 MVar switchable line reactor on each ckt at Vatman end of Halvad – Vataman 765 kV D/c line	<ul style="list-style-type: none"> <li>330 MVar, 765 kV switchable line reactor- 2 Nos. (6 x 110 MVar single phase reactor unit) [110 MVar single phase spare bus reactor unit to be used as spare for line reactor]</li> <li>Switching equipment for 765 kV line reactor- 2</li> </ul>
4.	2 Nos. of 765 kV line bays at Halvad end for termination of Halvad – Vataman 765 kV D/c line	<ul style="list-style-type: none"> <li>765 kV line bays– 2 Nos. (for Halvad end)</li> </ul>
5.	LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station	LILO route length: 10 km (40 ckm)
6. 3.	240 MVar 765 kV switchable line reactor on each ckt at Vataman end of Lakadia – Vataman 765 kV D/c line with NGR bypassing arrangement	<ul style="list-style-type: none"> <li>240 MVar, 765 kV switchable line reactor- 2 (7x 80 MVar single phase reactor units including 1 spare unit)</li> <li>Switching equipment for 765 kV line reactors- 2</li> </ul>
7. 4.	Vataman switching station – Navsari (New) (GIS) 765 kV D/c line	Route length: 200 km.
8. 5.	330 MVar switchable line reactors on each ckt at Navsari (New) (GIS) end of Vataman switching station – Navsari (New) (GIS) 765 kV D/c line	<ul style="list-style-type: none"> <li>330 MVar, 765 kV switchable line reactor- 2 Nos. (6 x 110 MVar single phase reactor unit ) [110 MVar spare reactor unit at Navsari being implemented by PGCIL, would be used as spare]</li> <li>Switching equipment for 765 kV line</li> </ul>

Sl. No.	Scope of the Transmission Scheme	Capacity / line length km
		reactors- 2
9. 6.	2 Nos. of 765 kV GIS line bays at Navsari (New) for termination of Vataman switching station – Navsari (New)(GIS) 765 kV D/c line	<ul style="list-style-type: none"> <li>765 kV line bays (GIS) – 2 Nos. (2 Nos. for Navsari (New) end)</li> </ul>

**Note:**

- (1) Developer of Halvad S/s to provide space for implementation of 2 Nos. of 765 kV line bays for termination of Halvad – Vataman 765 kV D/c line
- (2) Developer of Navsari (New)(GIS) S/s to provide space for implementation of 2 Nos. of 765 kV line bays alongwith switchable line reactors for termination of Vataman switching station – Navsari (New)(GIS) 765 kV D/c line. Also, developer of Navsari (New)(GIS) S/s to allow the use of 110 MVar single phase spare reactor unit for 330 MVar SLR on each ckt at Navsari (New) (GIS) end of Vataman switching station – Navsari (New) (GIS) 765 kV D/c line.
- (3) Bay(s) as may be required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- (4) Logic for Inter-tripping scheme for tripping of the switchable line reactor alongwith main line breaker at Lakadia and Vadodara end after LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station shall be enabled by the existing owner of the line (i.e. M/s LVTPL) after LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station.

3.2.13 The following transmission schemes have been segregated and approved by NCT for implementation through RTM route by the respective asset owner.

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	<p>ICT Augmentation associated with integration of additional 7 GW RE power from Khavda RE park under Phase-III</p> <p>(Total Cost: Rs 58.52 Crs)</p> <p>Implementation timeframe: In matching timeframe of Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B</p>	<p>Approved for implementation through RTM route by TSP of Navsari (new) S/stn i.e. POWERGRID</p>	<p>The scheme has been planned to enable evacuation of additional 7 GW RE power from Khavda RE park under Phase-III.</p>

Detailed scope of the schemes are as under:

**C. ICT Augmentation at Navsari (New) associated with integration of additional 7 GW RE power from Khavda RE park under Phase-III (Total Cost: Rs 58.52 Crs)**

Sl. No.	Scope of the Transmission Scheme	Capacity / line length km
1. 7.	Augmentation of transformation capacity at Navsari (New) 765/400 kV by 1x1500 MVA (ICT-IV)	765/400 kV, 1500 MVA ICT – 1 Nos.  765 kV ICT bay – <i>Not required as ICT to be terminated in existing bay</i>  400 kV ICT bay – 1 Nos. (GIS)

Note: Bay(s) as may be required for completion of diameter (GIS) in one-and-half breaker scheme, shall also be executed by the TSP.

**3.3 Transmission scheme for injection beyond 3 GW RE power at Khavda PS2 (KPS2)**

3.3.1 CTU proposed augmentation by three (3) Nos. 765/400 kV, 1500 MVA ICTs at KPS2 (3<sup>rd</sup> & 4<sup>th</sup> on Bus Section-I and 3<sup>rd</sup> on Bus Section-II) at estimated cost of Rs 352.06 Crore to cater RE injection requirement at Khavda Pooling Station-2 (KPS2). The proposed time frame of implementation is 21 months from date of allocation/SPV transfer.

3.3.2 It was informed that the transmission scheme “Establishment of KPS2” is under bidding and bid submission is scheduled on 16<sup>th</sup> January 2023. As the scheme involves ICT augmentation at a S/stn which has Not yet been awarded, NCT decided to defer the scheme at present and the same would be discussed for implementation after award of the work of establishment of KPS2.

3.3.3 The option of incorporating the requirement of additional ICTs in the scope of works of the under bidding scheme was also deliberated. However, in view of the urgency to complete the bid submission of the KPS2 S/stn, it was decided to keep the augmentation works segregated and it was decided that the same would be deliberated in the next meeting of NCT.

**3.4 Transmission scheme for evacuation of power from Dhule 2 GW REZ**

3.4.1 CTUIL proposed following requirement of transmission system for evacuation of power from Dhule 2 GW REZ (1 GW Solar+1 GW Wind) at approx. cost of Rs 637 Crore with implementation timeframe of 24 months from the date of allocation to implementing agency/SPV transfer (as case may be) or matching with scheduled CoD of RE project based on award of first bid of RE project by REIA at Dhule PS (whichever is later). Scope of works is given below:

- Establishment of 4x500 MVA, 400/220 kV Pooling Station near Dhule along with 2x125 MVAr (420 kV) Bus Reactor
- Dhule PS – Dhule (BDTCL) 400 kV D/c Line (Quad ACSR/AAAC/AL59 Moose equivalent) (~ 60 km length)
- 2 Nos. 400 kV line bays at Dhule (BDTCL) for Dhule PS – Dhule (BDTCL) 400 kV D/c Line

3.4.2 The scheme was discussed in 45<sup>th</sup> meeting of WRPC held on 2<sup>nd</sup> December 2022 and the scheme was in general agreeable to WRPC.

3.4.3 After detailed deliberations, the transmission scheme was recommended to be implemented through TBCB route.

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	Transmission scheme for evacuation of power from Dhule 2 GW REZ  Est. Cost: Rs 637 Crs  Implementation timeframe: 24 months from date of SPV transfer.	To be implemented though TBCB route	The scheme has been planned to enable evacuation of additional power from Dhule 2 GW REZ, which is part of 181.5 GW REZ planned towards achievement of 500 GW RE capacity by 2030.

Detailed scope of the scheme is as under:

Sl.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 4x500 MVA, 400/220 kV Pooling Station near Dhule along with 2x125 MVar (420 kV) Bus Reactors.  <b>Future provision</b>  Space for <ul style="list-style-type: none"> <li>➤ 400 kV line bays along with switchable line reactor – 8 Nos.</li> <li>➤ 400/220 kV ICT along with bays -6 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays: 2 Nos.</li> <li>➤ 400 kV Bus Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 9 Nos.</li> <li>➤ 220 kV Sectionalization bay: 1 set</li> <li>➤ 220 kV BC and TBC: 1 Nos.</li> </ul>	400/220 kV, 500 MVA ICT – 4 Nos.  400 kV ICT bays – 4 Nos.  220 kV ICT bays – 4 Nos. (2 Nos. on 220 kV bus section 1 and 2 Nos. on 220 kV bus section 2)  400 kV line bays – 2 Nos.  125 MVar, 420 kV Bus reactor – 2 Nos.  Bus reactor bay: 2 Nos.  220 kV Bus coupler bay- 2 Nos.  220 kV Transfer Bus Coupler (TBC) bay - 2 Nos.  220 kV line bays – 7 Nos. (for RE interconnection out of which 4 Nos. would be on 220 kV bus section 1 and 3 Nos. on 220 kV bus section 2)  220 kV Bus Sectionalizer – 1 set
2.	Dhule PS – Dhule (BDTCL) 400 kV D/c line (Quad ACSR/AAAC/AL59 Moose equivalent)	Route length: 60 km.
3.	2 Nos. 400 kV line bays at Dhule (BDTCL) for	400 kV Line bays – 2 Nos.



Sl.	Scope of the Transmission Scheme	Capacity /km
	Dhule PS – Dhule (BDTCL) 400 kV D/c Line	

*Note: BDTCL to provide space for 2 Nos. of 400 kV line bays for termination of Dhule PS – Dhule (BDTCL) 400 kV D/c Line*

### 3.5 **Scheme for drawal of 4000 MW power by MPSEZ UTILITIES LIMITED (MUL)**

3.5.1 CTUIL stated that connectivity application of 4000 MW from MUL has been received in the month of June, 2022 as per details given below:

Application No.	Name of Applicant (Organization)	Connectivity Quantum (MW)	Applicant Type	Project Location	Date from which connectivity required
0030700003	MPSEZ Utilities Limited (MUL)	4000	Distribution Licensee	Kutch, Gujarat	01.09.2024

3.5.2 The above application was deliberated in the 9<sup>th</sup> Consultation Meeting for Evolving Transmission Schemes (CMETS) in Western Region held on 28.07.2022, wherein MUL projected a requirement of about 10 GW drawal by 2030.

3.5.3 In the 9<sup>th</sup> CMETS, keeping in view the huge drawal requirement it was planned to supply power to MUL through a new 765/400 kV S/s near Navinal (Mundra), to be established through LILO of Bhuj-II – Lakadia 765 kV D/c line at Navinal (Mundra) (GIS) S/s. Connectivity is to be provided to MUL for two drawl points from Navinal S/s, namely MRSS-1 & MRSS-2 as per the schematic given in the agenda. In 9<sup>th</sup> WR-CMETS meeting, it was decided that LILO of 2<sup>nd</sup> circuit of Bhuj-II – Lakadia 765 kV D/c line at Navinal (Mundra) (GIS) S/s and additional 765/400 kV (4<sup>th</sup>) transformer at Navinal (Mundra) (GIS) S/s shall be planned after receipt of LTA applications beyond 3000 MW at Navinal (GIS) S/s. In this regard, at present, 3050 MW (LTA application) has already been received from MUL. Accordingly, it is proposed to establish the complete scheme which includes LILO of 2<sup>nd</sup> circuit of Bhuj-II – Lakadia 765 kV D/c line at Navinal (Mundra) (GIS) alongwith additional 765/400 kV (4<sup>th</sup>) transformer at Navinal (Mundra) (GIS) S/s.

3.5.4 Scope of the proposed scheme is given below:

#### **Part A (Under ISTS):**

Sl. No.	Scope of the Transmission Scheme	Capacity /km
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1.	<p>Establishment of 4x1500 MVA, 765/400 kV Navinal (Mundra) S/s (GIS) with 2x330 MVAR, 765 kV &amp; 1x125 MVAR, 420 kV bus reactors [with associated ICT &amp; reactor bays as well as 7x110 MVAR single phase including a spare unit for bus / line reactor as well as 13x500 MVA, 765/400 kV (single phase) including a spare transformer unit]</p> <p><b>Future provision for space for:</b></p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 6 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 2 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 -set</li> <li>➤ 400 kV line bays along with switchable line reactor – 8Nos.</li> <li>➤ 400/220 kV ICT along with bays -6 Nos.</li> <li>➤ 400 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 10 Nos.</li> <li>➤ 220 kV Sectionalization bay: 1 set</li> <li>➤ 220 kV BC and TBC: 2 Nos.</li> <li>➤ STATCOM (±300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125 MVAR): 2 Nos.</li> </ul>	<p>765/400 kV, 1500 MVA ICT – 4 Nos. (13x500 MVA single phase units including one spare ICT Unit)</p> <p>765 kV ICT bays – 4 Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>765 kV Line bays – 4 Nos.</p> <p>1x330 MVAR, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase reactors including one spare Unit for bus /line reactor)</p> <p>765 kV Bus reactor bay – 2 Nos.</p> <p>125 MVAR, 420 kV reactor- 1 No.</p> <p>400 kV Reactor bay- 1 No.</p>
2.	LILO of Bhuj-II – Lakadia 765 kV D/c line at Navinal (Mundra) (GIS) S/s with associated bays at Navinal (Mundra) (GIS) S/s	Route Length: 70 km (280 ckm)
3.	Installation of 1x330 MVAR switchable line reactor on each ckt at Navinal end of Lakadia – Navinal 765 kV D/c line (formed after above LILO)	<p>1x330 MVAR, 765 kV switchable line reactor – 2 Nos.</p> <p>Switching equipment for 765 kV line reactor – 2 Nos.</p>
<b>Part B (Under MUL Scope#)</b>		
4.	<p>Interconnection of MUL S/s (MRSS1 &amp; 2) with Navinal (Mundra) S/s (GIS) as given below:</p> <p>MUL MRSS-1 – Navinal (Mundra) 400 kV D/c (Twin HTLS - Quad Moose equivalent) line along with associated line bays Navinal end* (~1-2 km.)</p> <p>MUL MRSS-2 – Navinal (Mundra) 400 kV D/c (Twin HTLS - Quad Moose equivalent) line along with associated line bays Navinal end* (~1-2km.)</p> <p>*4 Nos. 400 kV Line bays at MUL (MRSS1 &amp; 2) end shall be implemented by MUL</p>	<p>Route Length: 1 km (approx.)</p> <p>400 kV line bays: 4 Nos.</p>

*# MUL may construct the interconnecting lines either through themselves (if authorized by appropriate authority) or through an ISTS Transmission Licensee with the cost of construction of transmission line & associated transmission charges (as applicable) being borne by MUL. In case the line is to be implemented through an ISTS Transmission Licensee, MUL may need to approach CERC for the same.*

3.5.5 Estimated cost of the transmission scheme is Rs 2200 crore and timeframe for implementation is 24 months from the date of allocation to implementing agency/SPV transfer (as case may be). Scheme to be awarded & taken up for implementation after receipt of LTA application from MUL. No major National Park, Wildlife Sanctuary or other protected areas observed. However, for details of forest/protected areas, survey is required to be done.

3.5.6 The scheme was deliberated in the 44<sup>th</sup> WRPC meeting held on 27.09.2022. Relevant extract is given below:

- i. The scheme was agreed technically by WRPC and the STUs of WR. However, a firm commitment by MUL is required for which they will have to apply for LTA for the above quantum to CTUIL on the basis of which the scheme can be taken up for execution.
- ii. Regarding the cost sharing aspects by MUL, it shall be sharing the transmission charges as per applicable CERC Regulations.

3.5.7 Representative of GRID India stated that the load of 4,000 MW of MUL can also be served from Mundra UMPP (CGPL) or Adani Mundra Power Plant located in vicinity. Accordingly, the scheme may be relooked. Further, connecting the proposed high load to Mundra UMPP (CGPL) or Adani Mundra Power Plant may also help in forming islanding schemes.

3.5.8 After deliberations, CTUIL was directed to re-examine the scheme based on above suggestions and present the same in the second sitting.

3.5.9 Accordingly, CTUIL organized a meeting on 05.01.2023 for finalization of scheme for drawl of 4000 MW power by MPSEZ Utilities Limited (MUL). In the meeting, CTUIL presented 07 Nos. of alternatives for evolving above scheme. Based on the outcome of the possible alternatives, establishment of Navinal (Mundra) S/s (GIS) along with LILO of Bhuj-II- Lakadia 765 kV D/c line at Navinal (Mundra) (GIS), as proposed earlier, was found to be the best option from techno-economic point of view.

3.5.10 The scheme was subsequently discussed in the 2<sup>nd</sup> sitting of NCT held on 17.01.2023 wherein CMD, GRID-India, stated that MPSEZ Utilities Limited (MUL) is a special case where a distribution licensee would get connected with ISTS and in future there may be similar cases where electrolyzers would be getting connected at ISTS level. It was discussed that by virtue of their connectivity to ISTS, these entities would be under the jurisdiction of RLDCs for scheduling/metering/accounting however, they would fall under the jurisdiction of State Electricity Regulatory Commission (SERC) for tariff related matters Members opined that the SLDCs as well as RLDCs/NLDC should have visibility of such entities for necessary coordination for resource adequacy. Chairperson, CEA, advised that regulatory provisions with respect to distribution licensee connected to ISTS would have to be clarified.

3.5.11 After detailed deliberations, the following transmission scheme was recommended to be implemented through TBCB route.

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
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1.	<p>Transmission scheme for drawal of 4000 MW power by MPSEZ Utilities Limited (MUL)</p> <p>Est. Cost: Rs 2200 Cr</p> <p>Implementation timeframe: 21 months from date of SPV transfer.</p>	To be implemented though TBCB route	The scheme has been planned to enable drawl of power by MPSEZ Utilities Limited (MUL)
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Detailed scope of the scheme is as under:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	<p>Establishment of 4x1500 MVA, 765/400 kV Navinal (Mundra) S/s (GIS) with 2x330 MVAR, 765 kV &amp; 1x125 MVA<sub>r</sub>, 420 kV bus reactors</p> <p><b>Future provision (space for):</b></p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 2 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 4 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 2 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 -set</li> <li>➤ 400 kV line bays along with switchable line reactors– 6 Nos.</li> <li>➤ 400/220 kV ICT along with bays -6 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 10 Nos.</li> <li>➤ 220 kV Sectionalization bay: 1 set</li> <li>➤ 220 kV BC and TBC: 2 Nos.</li> <li>➤ STATCOM (±300 MVAR) along with MSC (2x125 MVA<sub>r</sub>) &amp; MSR (1x125 MVA<sub>r</sub>) and associated bays- 2 Nos.</li> </ul>	<p>765/400 kV, 1500 MVA ICT – 4 Nos. (13x500 MVA single phase units including one spare ICT Unit)</p> <p>765 kV ICT bays – 4 Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>765 kV Line bays – 4 Nos.</p> <p>1x330 MVA<sub>r</sub>, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor)</p> <p>765 kV Bus reactor bay – 2 Nos.</p> <p>125 MVA<sub>r</sub>, 420 kV reactor- 1 Nos.</p> <p>400 kV Reactor bay- 1 No.</p>
2.	<p>LILO of Bhuj-II – Lakadia 765 kV D/c line at Navinal (Mundra) (GIS) S/s with associated bays at Navinal (Mundra) (GIS) S/s</p>	<p>LILO Route length: 70 km (280 ckm)</p>
3.	<p>Installation of 1x330 MVA<sub>r</sub> switchable line reactor on each ckt at Navinal end of Lakadia – Navinal 765 kV D/c line (formed after above LILO)</p>	<p>1x330 MVA<sub>r</sub>, 765 kV switchable line reactor– 2 Nos.</p> <p>Switching equipment for 765 kV line reactor – 2 Nos.</p>

**Note:**

(1) The following scope of works for interconnection of MUL S/s (MRSS1 & 2) with Navinal (Mundra) S/s (GIS) is under the scope of MUL and is required to be implemented in the same time frame.

Sl. No.	Scope of works to be implemented by MUL	Capacity/km
1	<p>Interconnection of MUL S/s (MRSS1 &amp; 2) with Navinal (Mundra) S/s (GIS) as given below:</p> <p>(i). MUL MRSS-1 – Navinal (Mundra) 400 kV D/c (Twin HTLS - Quad Moose equivalent) line along with associated line bays Navinal end* (~1-2 km.)</p> <p>(ii). MUL MRSS-2 – Navinal (Mundra) 400 kV D/c (Twin HTLS - Quad Moose equivalent) line along with associated line bays Navinal end* (~1-2 km.)</p> <p>*4 Nos. 400 kV Line bays at MUL (MRSS1 &amp; 2) end shall be implemented by MUL</p>	<p>Route Length- 1 km (approx.)</p> <p>400 kV line bays: 4 Nos.</p>

(2) Developer of the transmission scheme (under ISTS) to provide space for 4 Nos. of 400 kV line bays for termination of MUL lines under the present scope of works (in addition to future space provision)

### 3.6 **Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part A**

3.6.1 To overcome critical constraint on 400/220 kV, 2x315+1x500 MVA Jabalpur ICTs (POWERGRID), joint studies were carried out and scheme for creation of 220 kV level at 765/400 kV Jabalpur PS with installation of 2x500 MVA, 400/220 kV ICTs along with LILO of Narsinghpur - Jabalpur (MP) 220 kV D/c line at Jabalpur PS was evolved. The scheme is envisaged to relieve high loadings on Jabalpur ICTs which were found to be 'N-1' non-compliant. As such, the transmission scheme is urgently required.

3.6.2 As the estimated cost of the scheme lies between Rs 100 to 500 Crore and in view of the urgency of the works (clause 7.1(7) of Tariff Policy, 2016), NCT approved the scheme for implementation through RTM mode with implementation timeframe of 18 months.

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	<p>Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part A</p> <p>Est. Cost: Rs 126.09 Crs</p> <p>Implementation timeframe: 18 months from date of allocation.</p>	<p>Approved for implementation through RTM route by TSP of Jabalpur PS i.e. POWERGRID</p>	<p>To relieve high loadings on Jabalpur ICTs which were found to be 'N-1' non-compliant</p>

Detailed scope of the scheme is as under:

Sl.	Scope of the Transmission Scheme	Capacity /km
1.	Creation of 220 kV level at 765/400 kV Jabalpur PS with installation of 2x500 MVA, 400/220 kV ICTs along with associated ICT bays	400/220 kV, 500 MVA ICT – 2 Nos.  400 kV ICT bays – 2 Nos.  220 kV ICT bays – 2 Nos.
2.	4 Nos. of 220 kV line bays at Jabalpur PS for LILO of Narsinghpur - Jabalpur (MP) 220 kV D/c line at Jabalpur Pool	220 kV line bays – 4 Nos.

### 3.7 Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B

3.7.1 Due to high loadings on 3x315 MVA, 400/220 kV Gwalior ICTs which are also 'N-1' Non-compliant, joint studies were carried out and scheme to establish a new Substation in South of Gwalior at Karera was evolved in order to cater to the increased demand in that area, which can also be used for grant of connectivity to M/s Greenko for their proposed 2,520 MW Pumped Storage Plant Project in future. The proposed 765/400 kV, 2x1500 MVA & 400/220 kV, 2x500 MVA Karera (Near Datiya) S/s would be established through LILO of Satna-Gwalior 765 kV S/c line. The following downstream system would be implemented by MPPTCL in matching time-frame of Karera S/s:

#### **Under Intra-state (to be implemented by MPPTCL):**

- LILO of both circuits of Bina - Datiya 220 kV line at Karera
- Extension of LILO portion of Datiya 220 kV- Bina 400 kV line (LILOed at Pichhore 220 kV) upto Karera so as to form Karera – Pichhore 220 kV D/c line
- Upgradation of 132 kV Seondha to 220 kV with 2x200 MVA, 220/132 kV ICT
- 220 kV D/C (U/G) line from Karera 765 kV S/s to Seondha 220 kV
- 132 kV DCSS line from Seondha 220 kV to Indergarh S/s

3.7.2 The proposed scheme will have approx. expenditure of Rs 1200 crore and timeframe of implementation will be 24 months from SPV transfer. No major forest, wildlife, other protected areas are observed. However, for details of other forest/protected areas survey is required to be done.

3.7.3 The scheme was discussed in 45<sup>th</sup> meeting of WRPC held on 2<sup>nd</sup> December 2022 and the scheme was in general agreeable to WRPC.

3.7.4 After detailed deliberations, the following was recommended by NCT:

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B	To be implemented through TBCB route	To relieve high loadings on Gwalior ICTs which were found to be 'N-1' Non-



	Est. Cost: Rs 1181 Crs  Implementation timeframe: 24 months from SPV transfer.		compliant.
2.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B1  Est. Cost: Rs 19 Crs Implementation timeframe: In matching timeframe of Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B	Under RTM to the owner of Gwalior-Satna 765 kV line i.e. POWERGRID	For reactive power control and reliability of operations

Detailed scope of the schemes are as under:

**(1) Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B**

Sl.Nos.	Scope of the Transmission Scheme	Capacity /km
1.	<p>Establishment of 2x1500 MVA, 765/400 kV, 2x500 MVA, 400/220 kV S/s at Karera (near Datiya) along with 1x330 MVAR 765 kV bus reactor &amp; 1x125 MVAR, 420 kV bus reactor</p> <p><b>Future provisions:</b></p> <p>Space for</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 set</li> <li>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>➤ 400/220 kV ICT along with bays -6 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays- 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1 set</li> <li>➤ 220 kV line bays: 10 Nos.</li> <li>➤ 220 kV Sectionalization bay: 1 set</li> <li>➤ 220 kV BC and TBC: 1 No.</li> </ul>	<p>765/400 kV, 1500 MVA ICT – 2 Nos.  (7x500 MVA single phase units including one spare ICT unit)  400/220 kV, 500 MVA ICT – 2 Nos.  765 kV ICT bays – 2 Nos.  400 kV ICT bays – 4 Nos.  220 kV ICT bays – 2 Nos.  765 kV Line bays – 2 Nos.  330 MVAR, 765 kV Bus Reactor – 1 No. (4x110 MVAR single phase units including one spare unit)  125 MVAR, 420 kV Bus reactor – 1 No.  765 kV Bus reactor bay: 1 No.  400 kV Bus reactor bay: 1 No.  220 kV Bus coupler bay- 2 Nos.  220 kV Transfer Bus Coupler (TBC) bay - 2 Nos.</p>



Sl.Nos.	Scope of the Transmission Scheme	Capacity /km
		220 kV line bays – 8 Nos.  (for 220 kV lines to be implemented by MPPTCL#)  220 kV Bus sectionaliser– 1 set.
2.	LILO of Satna-Gwalior 765 kV S/c line at Karera	LILO route length: 70 km (140 ckm)
3.	Installation of 1x330 MVA <sub>r</sub> , switchable line reactor at Karera end of Karera – Satna 765 kV line	765 kV, 330 MVA <sub>r</sub> SLR along with switching equipment – 1 No. (3 x 110 MVA <sub>r</sub> ) [110 MVA <sub>r</sub> single phase reactor unit for bus reactor to be used as spare for line reactor too ]

#LILO of both circuits of Bina - Datia 220 kV D/c line at Karera, Extension of LILO portion of 220 kV Datia - Bina line for Pichhore 220 kV upto Karera & Karera - Seondha 220 kV D/c line

**(2) Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B1**

Sl.	Scope of the Transmission Scheme	Capacity /km
1.	Conversion of 1x240 MVA <sub>r</sub> , 765 kV Fixed line reactor at Gwalior end to Switchable line reactor (with NGR bypass arrangement) along with implementation of Inter-tripping scheme (for tripping of the switchable shunt reactor at Gwalior end along with the main line breaker)	<ul style="list-style-type: none"> <li>Switching equipment for 765 kV line reactor (with NGR bypass arrangement) – 1 No.</li> <li>Implementation of inter-tripping scheme for the switchable line reactor at Gwalior end</li> </ul>

### 3.8 Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C

3.8.1 Joint studies were carried out and a new S/s was proposed at Ishanagar to cater to the electricity demand of proposed Green hydrogen plant in nearby area as well as loads in Chhatarpur, Tikamgarh & Jatara areas. It was also informed that RUMS is in the process of establishing 950 MW solar project in Bijawar area whereas NTPC is in the process of establishing 550 MW solar project in Barethi/Chhatarpur area which has been enhanced to 630 MW. Chhatarpur PS is proposed to be established in Bijawar area near to RUMSL solar site. As it is Not possible for NTPC to construct dedicated transmission line upto the planned Chhatarpur PS on account of the transmission line passing through Panna Tiger Reserve, requirement of a separate pooling station for pooling of RE power of NTPC near Ishanagar/Jatara has been done. MPPTCL would also be able to draw power through downstream system from the planned S/stn at Ishanagar/Jatara. In view of above, the proposed Ishanagar (New) S/s may be used to cater to the electricity demand of proposed Green hydrogen plant in nearby area, loads in Chhatarpur, Tikamgarh & Jatara areas and also for interconnection of 630 MW NTPC Barethi Solar Plant (located ~30-40 km from Ishanagar). The proposed scheme (Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C) covers establishment of 765/400 kV, 2x1500 MVA ICTs and 400/220 kV, 2x500 MVA ICTs at Ishanagar (New) with LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New). Downstream System (to be implemented by MPPTCL in matching time-frame of Ishanagar S/s): 220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur – Tikamgarh 220 kV 2<sup>nd</sup> ckt is currently under implementation). Tentative cost of transmission system will be Rs 556 crore with implementation timeframe of 24 months from the date of allocation to implementing agency/SPV transfer. No inclusion of any wild life/protected area along the transmission line route is envisaged.

3.8.2 The scheme was discussed in 45<sup>th</sup> meeting of WRPC held on 2<sup>nd</sup> December 2022 and the same was in general agreeable to WRPC.

3.8.3 After detailed deliberations, the following packages were recommended by NCT for the overall transmission scheme:

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C  Est. Cost: Rs 555 Crs  Implementation timeframe: 24 months from date of SPV transfer.	To be implemented through TBCB route.	The proposed Ishanagar (New) S/s may be used to cater to loads in Chhatarpur, Tikamgarh & Jatara areas and additional load of proposed Green hydrogen plants in nearby area as well as for interconnection of 550 MW NTPC Barethi Solar Plant (located ~30-40 km from Ishanagar)

2.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C1  Est. Cost: Rs 0.5 Crs  Implementation timeframe: In matching timeframe of Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C.	To be implemented through RTM route by POWERGRID, the TSP of Jabalpur - Orai 765 kV S/c line.	For reactive power control and reliability of operations
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Detailed scope of the scheme is as under:

**(1) Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C**

<i>Sl. No.</i>	<i>Scope of the Transmission Scheme</i>	<i>Capacity /km</i>
1.	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV &amp; 1x125 MVA, 420 kV bus reactor</p> <p><b>Future provisions:</b></p> <p><b>Space for</b></p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 set</li> <li>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>➤ 400/220 kV ICT along with bays -7 Nos.</li> <li>➤ 400 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 12 Nos.</li> <li>➤ 220 kV Sectionalization bay: 2 sets</li> <li>➤ 220 kV BC and TBC: 3 Nos.</li> </ul>	<p>765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA 1-phase units including one spare ICT unit)</p> <p>400/220 kV, 500 MVA ICT – 2 Nos.</p> <p>765 kV ICT bays – 2 Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>220 kV ICT bays – 2 Nos.</p> <p>765 kV Line bays – 2 Nos.</p> <p>330 MVA, 765 kV Bus Reactor – 1 No. (4x 110 MVA including one spare unit)</p> <p>125 MVA, 420 kV Bus reactor – 1 No.</p> <p>765 kV Bus reactor bay: 1 No.</p> <p>400 kV Bus reactor bay: 1 No.</p> <p>220 kV Bus coupler bay- 1 No.</p> <p>220 kV Transfer Bus Coupler (TBC) bay - 1 No.</p>

<i>Sl. No.</i>	<i>Scope of the Transmission Scheme</i>	<i>Capacity /km</i>
		220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)
<b>2.</b>	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	LILO route length – 5 km (10 ckm)

*Note: #220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur – Tikamgarh 220 kV 2<sup>nd</sup> ckt is currently under implementation)*

**Under Intra-State (by MPPTCL):**

- Establishment of 220/132 kV, 2x200 MVA ICT & 132/33 kV 2x50 MVA ICT at Jatara 220 kV S/s
- 220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line
- 2<sup>nd</sup> circuit stringing of Chhatarpur – Tikamgarh 220 kV DCSS line
- LILO of both circuit of Chhatarpur – Tikamgarh 220 kV DCDS line at 765/400/220 kV Ishanagar
- 132 kV Jatara 220 kV - Jatara 132 kV D/C line (With High Capacity Conductor)
- 132 kV Jatara 220 kV - Nowgaon 132 kV D/C line
- 2<sup>nd</sup> circuit stringing of Jatara 132 kV - Prithvipur DCSS line
- 2<sup>nd</sup> circuit stringing of Jatara 132 kV - Tikamgarh DCSS line

MPPTCL shall execute above works in matching time-frame of the ISTS system.

**(2) Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C1**

<i>Sl. No.</i>	<i>Scope of the Transmission Scheme</i>	<i>Capacity /km</i>
<b>1.</b>	Conversion of 1x330 MVAR, 765 kV Fixed line reactor at Orai end of Ishanagar – Orai 765 kV line [formed after LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar (New) S/s] to Bus reactor at Orai S/s.	<ul style="list-style-type: none"> <li>• Shifting of 330 MVAR, 765 kV Line reactor of Orai-Jabalpur line at Orai end and installing the same as Bus Reactor in existing bay (GIS) at Orai.</li> </ul>

3.9 **Approval of various transmission elements at 400/220 kV Bikaner-II PS by CTUIL**

3.9.1 Bikaner-II PS along with its interconnections is under implementation by POWERGRID Bikaner Transmission System Limited (PBTSL).

3.9.2 CTUIL vide OM dated 16.11.2021, 26.04.2022 and 25.08.2022 had allocated the work of implementation of ICTs, line bays and bus extension works at Bikaner-II PS to PBTSL under RTM as separate schemes individually costing less than Rs 100 crores. The works were approved to facilitate interconnection of various RE Projects at Bikaner-II PS as well as its further dispersal. Details are as follows:

Sl. No.	Scheme	CTUIL OM (Date)	Scope of the Transmission Scheme	Estimated Cost
1	Implementation of 220 kV bays for RE generators and 400/220 kV ICTs at Bikaner-II PS	16.11.21	<ul style="list-style-type: none"> <li>2x500 MVA, 400/220 kV ICT at Bikaner-II PS</li> <li>4 Nos. 220 kV line bays</li> </ul>	Rs 70 Cr.
2	1 Nos. of 400 kV line bay at 400/220 kV Bikaner-II S/s for interconnection of 1000 MW Solar Project of SJVN Ltd.	26.04.22	<ul style="list-style-type: none"> <li>400 kV line bay – 1 No.</li> </ul>	Rs 11.62 Cr.
3	2 Nos. of 220 kV line bays for interconnection of RE projects and Implementation of 220 kV Bus sectionalizer along with BC and TBC at 400/220 kV Bikaner-II PS	25.08.22	<ul style="list-style-type: none"> <li>220 kV line bay – 2 Nos.</li> <li>220 kV Bus Sectionalizer Bay– 1 Set</li> <li>220 kV Bus Coupler Bay–1 Nos.</li> <li>220 kV Transfer Bus Coupler Bay–1 Nos.</li> <li>Bus extension works for future Bays (3 Nos. of Line Bays &amp; 3 Nos. of ICT Bays) – 1 Set</li> </ul>	Rs 38.56 Cr.

3.9.3 PBTSL had filed petition 137/TL/2022 for grant of separate Transmission License to implement above scope of works. CERC vide order dated 07.10.2022 in above mentioned petition the Commission had observed that since combined cost of the three elements is exceeding Rs 100 crore, the proposal may also be got ratified from the NCT.

3.9.4 Further, in the 9<sup>th</sup> meeting of NCT held on 28.09.2022, augmentation with 5x500 MVA, 400/220 kV ICTs at Bikaner-II PS was recommended to be implemented under RTM to POWERGRID. Accordingly, CEA vide letter dated 15.11.22 has allocated the implementation of above scheme to POWERGRID under RTM.

3.9.5 CTUIL vide its mail dated 01.12.2022 has informed that since Bikaner-II PS is under implementation by POWERGRID Bikaner Transmission System Ltd. (PBTSL) [100% subsidiary of POWERGRID] under TBCB, the 400/220 kV ICTs augmentation at Bikaner-II PS may be allocated to M/s PBTSL under RTM instead of POWERGRID. Accordingly, the implementing agency for augmentation with 5x500 MVA, 400/220 kV ICTs at Bikaner-II PS is POWERGRID Bikaner Transmission System Ltd. (PBTSL).

3.9.6 NCT ratified and noted the same.

### 3.10 **Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)**

3.10.1 Transmission system for evacuation of power from Kaza Solar Power Project (880 MW) was broadly identified as under:

- Kaza-Wangtoo (HPPTCL)-Panchkula 400 kV D/c line
- Establishment of 3x315 MVA (10x105 MVA single phase units including one spare), 400/132 kV substation (GIS) at Kaza
- Associated reactive compensation (Bus+line)

3.10.2 Subsequently, it was envisaged that three hydro-electric power stations (880 MW Jangi Thopan HEP of SJVN, 150 MW Tidong HEP of Statkraft, 450 MW Shongtong Karcham HEP of HPPCL) would be connected to the same system near Wangtoo. Hence, this network would be utilised both for solar and hydro projects. However, there is no Stage-II Connectivity/LTA application for Kaza Solar Park yet and commissioning schedule of generation at Kaza had also been revised repeatedly by SJVNL. Kaza Solar park involves conversion of forest land for which permission is yet to be granted. Since, commissioning of Tidong HEP (01<sup>st</sup> July'26) is ahead of Shongtong HEP (31<sup>st</sup> July, 2026), the proposed transmission system has been phased as under:

#### **A. Phase-I with Tidong HEP [Schedule: 01<sup>st</sup> July 2026]**

- Establishment of 2x315 MVA (7x105 MVA 1-ph units including a spare unit) 400/220 kV GIS Pooling Station at Jhangi
- 400 kV Jhangi PS – Wangtoo (Quad) D/c line (*capacity shall be 2500 MVA per circuit at Nominal voltage*)
- 1x125 MVAR, 420 kV Bus reactor at Jhangi PS (1-ph units along with one spare unit)
- Tidong HEP- Jhangi PS 220 kV D/C line (along with associated bays at both ends)-

under the scope of applicant/generation developer.

**B. Phase-II with Shongtong HEP [Schedule : 31<sup>th</sup> July, 2026]**

- LILO of one circuit of Jhangi PS - Wangtoo (HPPTCL) 400 kV D/c (Quad) line<sup>s</sup> at generation switchyard of Shongtong HEP
- Wangtoo (HPPTCL) - Panchkula (PG) 400 kV D/c (Twin HTLS\*) line along with 80 MVAR switchable line reactor at Panchkula end on each circuit -210 km

*\* with minimum capacity of 2100 MVA on each circuit at Nominal voltage*

*<sup>s</sup>Line capacity shall be 2500 MVA per circuit at Nominal voltage*

3.10.3 The above corridors shall be utilised for evacuation of power from Hydro generation of 1,404 MW (Shongtong-450 MW; Tidong-150 MW & Jhangi Thopan -804 MW) as well as Kaza Solar Park (880 MW) after connectivity of Kaza PS with 400 kV Jhangi PS. In this way, the identified corridors shall be utilised for 2,284 MW envisaged RE generation.

3.10.4 The Scheme was deliberated and agreed in the 57<sup>th</sup> meeting of NRPC held on 31.08.2022. However, it was also opined that CTUIL shall closely monitor progress of Kaza solar park and ensure that transmission system for Kaza Solar Park is planned & implemented matching with the Kaza generation project to meet its evacuation requirement so that there is no loss of RE generation.

3.10.5 Representative from MNRE stated that commissioning of Kaza Solar Park is uncertain due to various issues in environmental/forest clearances.

3.10.6 It was informed that considering the limited corridor in the area, higher capacity of the transmission line has been considered. Further, there is additional Hydro potential in the Satluj basin. Also, as informed by Govt of HP, another solar park of 400 MW is also envisaged in Kinnaur area. Therefore, even if Kaza solar project doesn't materialize, the proposed corridors can be utilized for evacuation of power of those hydro/ Solar generation projects.

3.10.7 After detailed deliberations the transmission scheme was recommended to be implemented through TBCB route.

Sl. No.	Name of the scheme/est. cost	Decision of NCT	Purpose /Justification
1.	<p>Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)</p> <p>Est. Cost: Rs 2286 Crs</p> <p>Implementation timeframe: Progressively from 1<sup>st</sup> July, 2026</p>	Recommended for implementation through TBCB route	The proposed corridor shall be utilized for evacuation of 2,284 MW envisaged RE generation.

Detailed scope of the scheme is as under:



<i>Sl. No.</i>	<i>Scope of the Transmission Scheme</i>	<i>Capacity /km</i>
<b>A. Phase-I with Tidong HEP [Schedule: 01<sup>st</sup> July 2026]</b>		
<b>1.</b>	Establishment of 2x315 MVA (7x105 MVA 1-ph units including a spare unit) 400/220 kV GIS Pooling Station at Jhangi  <b>Future provisions (Space for):</b> <ul style="list-style-type: none"> <li>• 5 Nos. of 400 kV line bays</li> <li>• 6 Nos. of 220 kV line bays for future projects ( space for 2 bays to be utilized for connectivity to Tidong generation)</li> <li>• 2 Nos. of 400/220 kV Transformer</li> <li>• 1 Nos. 420 kV Bus Reactor along with bay</li> <li>• 220 kV Sectionalization bay: 1 set</li> <li>• Bus Coupler: 1 No.</li> </ul>	<ul style="list-style-type: none"> <li>• 400/220 kV ICTs- 2x315 MVA (7x105 MVA 1-ph units including a spare unit)</li> <li>• 400 kV ICT bays- 2 Nos.</li> <li>• 220 kV ICT bays- 2 Nos.</li> <li>• 400kV line bays (GIS) -2 Nos. (for Jhangi PS – Wangtoo D/c line)</li> <li>• 420 kV Bus reactor -1 No. (4x 41.66 MVA 1-ph units including one spare unit)</li> <li>• 420 kV Reactor bay-1 No.</li> </ul>
<b>2</b>	400 kV Jhangi PS – Wangtoo (Quad) D/c line ( <i>Line capacity shall be 2500 MVA per circuit at Nominal voltage</i> )	Route length-54 km
<b>3</b>	400 kV bays at Wangtoo for termination of 400 kV Jhangi PS – Wangtoo D/c line	400 kV bays – 2 Nos.(GIS)
<b>B. Phase-II with Shongtong HEP [Schedule : 31<sup>th</sup> July, 2026]</b>		
<b>1.</b>	LILO of one circuit of Jhangi PS - Wangtoo (HPPTCL) 400 kV D/c (Quad) line <sup>s</sup> at generation switchyard of Shongtong HEP	LILO route length- 1 km (2 ckm)
<b>2.</b>	Wangtoo (HPPTCL) - Panchkula (PG) 400 kV D/c (Twin HTLS*) line along with 80 MVAR switchable line reactor at Panchkula end on each circuit	Route length- 210 km
<b>3</b>	400 kV bays at Wangtoo S/s (2 Nos.) and Panchkula S/s (2 Nos.) for termination of 400 kV Wangtoo (HPPTCL) - Panchkula (PG) D/c line	400 kV Line bays- 4 Nos. (2 Nos. GIS bays at Wangtoo and 2 Nos. AIS bays at Panchkula)

<sup>s</sup> Line capacity shall be 2500 MVA per circuit at Nominal voltage

\* with minimum capacity of 2100 MVA on each circuit at Nominal voltage

*Note :*

- Tidong HEP- Jhangi PS 220 kV D/C line (along with associated bays at both ends)- under the scope of applicant/generation developer.
- Developer of Shongtong HEP to provide 2 Nos. of 400 kV bays at Shongtong switchyard for

- LILO of one circuit of Jhangi PS - Wangtoo (HPPTCL) 400 kV D/c (Quad) line at generation switchyard of Shongtong HEP
- iii. HPPTCL to provide space for four number of 400 kV line bays (GIS) at Wangtoo substation for termination 400 kV Jhangi PS – Wangtoo D/c line and Wangtoo (HPPTCL) - Panchkula (PG) D/c line
  - iv. *Powergrid to provide space for 2 Nos. of 400 kV bays at Panchkula S/s for termination of Wangtoo (HPPTCL) - Panchkula (PG) D/c line*
  - v. The line lengths indicated above are approximate as the actual line length would be obtained after detailed survey.

3.11 **Additional 1x500 MVA 400/220 kV (9<sup>th</sup>) ICT, for injection from any additional RE project (other than 4000 MW injection under SECI bids upto Tranche IV) at Bhuj PS**

3.11.1 CTUIL stated that the additional 1x500 MVAR, 400/220 kV (9<sup>th</sup>) ICT at Bhuj PS was planned for injection from any additional RE project (other than 4000 MW injection under SECI bids upto Tranche IV) at Bhuj PS and was allocated for implementation to POWERGRID under RTM route as per MoP OM dated 30.01.2019. As per the OM, the 9<sup>th</sup> ICT is to be taken up for injection requirement beyond 4,000 MW at 220 kV level of Bhuj PS.

3.11.2 Presently, the total Stage-II connectivity and LTA at Bhuj PS has reached 3366 MW. Considering the large size of the Pooling Station as well as rapid pace of development of RE projects in Gujarat, it is proposed to proceed with implementation of the 9<sup>th</sup> ICT at Bhuj PS irrespective of Stage-II connectivity/LTA applications. The 9<sup>th</sup> ICT would also serve the purpose of meeting 'N-1' criteria as soon as RE evacuation requirement crosses 3500 MW at Bhuj PS.

3.11.3 Representative of SECI stated that Govt. of Gujarat is not providing land for additional RE development in Bhuj area, therefore, no additional connectivity applications are anticipated from RE generators CTUIL also informed that as of now, no new connectivity applications have been received.

3.11.4 After detailed deliberations, it was decided to defer the scheme and the same would be taken up upon visibility of additional RE generation at Bhuj PS.

3.12 **Urgent requirement of KPS1 Augmentation and KPS2 / KPS3 establishment schemes**

3.12.1 CTUIL stated that a meeting was held on 28.11.2022 under the Chairmanship of Adviser, MNRE, amongst MNRE, CTU, RECPDCL and SPPDs in Khavda area, to discuss the progress in development of transmission system in Khavda region of Gujarat. During the meeting, it was brought out that the length of transmission lines viz. length of KPS1-KPS2 / KPS2-KPS3 765 kV D/c lines is small (~20 km.). Further, space for establishment of KPS2 / KPS3 has already been earmarked by GPCL.

3.12.2 Accordingly, considering the urgent requirement of KPS1 Augmentation and KPS2 / KPS3 establishment schemes and to ensure matching of associated transmission system with RE generation, it was decided that the time-line of implementation of the following schemes may be reduced from 24 months to 21 months:

- a) Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park
- b) Transmission scheme for injection beyond 3 GW RE power at Khavda PS1 (KPS1)

c) Establishment of Khavda Pooling Station-3 (KPS3) in Khavda RE Park

3.12.3 During that meeting, the SPPDs noted the latest time-lines of the schemes and expressed no issues with the same. In line with above decision, CTU has already provided inputs towards RfP amendment of the subject schemes to the BPC.

3.12.4 After detailed deliberations, the time-line of implementation of the following schemes from 24 months to 21 months was ratified by NCT:

- a) Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park
- b) Transmission scheme for injection beyond 3 GW RE power at Khavda PS1 (KPS1)
- c) Establishment of Khavda Pooling Station-3 (KPS3) in Khavda RE Park

### 3.13 **Change in scope of the "Transmission scheme for evacuation of 4.5 GW RE Injection at Khavda PS under Phase-II- Part B"**

3.13.1 Transmission scheme for evacuation of 4.5 GW RE Injection at Khavda PS under Phase-II- Part B is given below:

- Lakadia PS – Ahmedabad 765 kV D/c line (250 km.)
- 2 Nos. of 765 kV line bays at Lakadia PS for Lakadia PS – Ahmedabad 765 kV D/c line
- 240 MVar, 765 kV switchable line reactor for each circuit at each end of Lakadia PS – Ahmedabad 765 kV D/c line)

3.13.2 M/s Adani had communicated non-availability of space for 2 Nos. of Switchable Line Reactors at Lakadia S/stn for Lakadia-Ahmedabad 765 kV D/c line. Accordingly, a meeting was convened by CEA on 28.11.2022 with participants from CTUIL and WRLDC to discuss the "Transmission scheme for evacuation of 4.5 GW RE Injection at Khavda PS under Phase-II- Part B". In the meeting, CTUIL had highlighted that the requirement of Switchable Line Reactors at Lakadia S/stn was for interim period. After the planned LILO of the Lakadia-Ahmedabad 765 kV D/c line at Halvad, only the reactors at Ahmedabad end would suffice. After deliberations in that meeting, it was agreed to delete the Switchable Line Reactors at Lakadia S/stn for Lakadia-Ahmedabad 765 kV D/c line and revised scope is given below:

- Lakadia PS – Ahmedabad 765 kV D/c line (200 km.)
- 2 Nos. of 765 kV line bays at Lakadia PS for Lakadia PS – Ahmedabad 765 kV D/c line
- 240 MVar, 765 kV switchable line reactor for each circuit at Ahmedabad end of Lakadia PS –Ahmedabad 765 kV D/c line)

3.13.3 In line with above, CTUIL has already provided inputs towards RfP amendment of the subject scheme to the BPC.

3.13.4 After detailed deliberations, NCT ratified the revised scope of "Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase-II Part B" as given below:

Original Scope	Revised Scope
<ul style="list-style-type: none"> <li>• Lakadia PS – Ahmedabad 765 kV D/c line (250 km.)</li> <li>• 2 Nos. of 765 kV line bays at Lakadia PS</li> </ul>	<ul style="list-style-type: none"> <li>• Lakadia PS – Ahmedabad 765 kV D/c line (200 km.)</li> <li>• 2 Nos. of 765 kV line bays at Lakadia PS</li> </ul>

for Lakadia PS – Ahmedabad 765 kV D/c line	for Lakadia PS – Ahmedabad 765 kV D/c line
<ul style="list-style-type: none"> <li>240 MVar, 765 kV switchable line reactor for each circuit at each end of Lakadia PS –Ahmedabad 765 kV D/c line</li> </ul>	<ul style="list-style-type: none"> <li>240 MVar, 765 kV switchable line reactor for each circuit at Ahmedabad end of Lakadia PS –Ahmedabad 765 kV D/c line</li> </ul>

3.14 **Modifications in the scheme “Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D”.**

3.14.1 In the 10<sup>th</sup> meeting of NCT held on 07.11.2022 w.r.t. Agenda Item 3.3 (Implementation modalities of Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D), following was agreed:

- The mode of implementation for the “Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D” would be changed from TBCB to RTM.
- Further, as implementation of all the transmission packages proposed for evacuation of 4.5 GW RE injection at Khavda RE park under Phase-II (Part A to Part D) needs to be taken up in similar timeframe, accordingly, the implementing agency under RTM would coordinate with the BPC/SPV of Khavda Phase II (Part A – C) schemes to match the commissioning timeframe. This would entail the following:
  - i. Denotification of the scheme “Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D” that was issued by MoP vide Gazette Notification dated 25.09.2020.
  - ii. Allocation of the aforesaid scheme to CTUIL for implementation through RTM route by the respective asset owners i.e.
    - a. LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS conductor alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor (with OPGW for both main & LILO portion) and Bay upgradation work at Pirana (T) along with requisite FOTE - to be awarded to TPGL.
    - b. Bay upgradation work at Pirana (PG) along with requisite FOTE - to be awarded to Powergrid.

3.14.2 CTUIL mentioned that M/s TPGL vide letter dated 20.12.2022 had informed that they are also the owner of 2 Nos. 400 kV line bays at Pirana (PG) S/s. Accordingly, implementation agency for bay work at Pirana (PG) needs to be revised as given below:

Sl. No.	Scope of the Transmission Scheme (Original)	Scope of the Transmission Scheme (Revised)
1.	LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS conductor alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor (with OPGW for both main & LILO portion) and Bay upgradation work at Pirana (T) along with requisite FOTE - to be awarded to TPGL	LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS conductor alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor (with OPGW for both main & LILO portion) and Bay upgradation work at Pirana (T) <b>and at Pirana (PG)</b> along with requisite FOTE - to be awarded to TPGL
2.	Bay upgradation work at Pirana (PG) along with requisite FOTE - to be awarded to Powergrid.	

3.14.3 NCT approved the above.

3.15 **Modification in scope of work of “Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part C” scheme**

3.15.1 The Transmission Network Expansion in Gujarat to increase its ATC from ISTS: Part C scheme was agreed in the 7<sup>th</sup> NCT meeting held on 03.12.2021 with following scope of work:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA	765/400 kV, 1500 MVA ICT: 1 No. 765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.
2	Banaskantha -Sankhari 400 kV 2 <sup>nd</sup> D/c line	Route length: 26 km 400 kV line bays- 4 Nos. (2 Nos. at Banaskantha and 2 Nos. at Sankhari)

3.15.2 Estimated Cost of the scheme was Rs 148 Crore and Implementation Time-frame was in Matching with establishment of Prantij 400/220 kV and Sankhari- Prantij 400 kV D/c line by GETCO (presently expected by March, 2025).

3.15.3 The scheme is presently under implementation by POWERGRID (under RTM) as per NCT letter dated 22.12.2021. Subsequently, in a meeting amongst CTUIL & GETCO on 09.11.2022, GETCO requested CTU to review the Banaskantha -Sankhari 400 kV 2<sup>nd</sup> D/c line considering the issue of high fault level at 400 kV level of Sankhari (Veloda) S/s (~45 kA in 2026-27 time-frame) as well as RE connectivity to the tune of 700-800 MW which has been granted by GETCO at 220 kV level of Sankhari S/s. Further, the matter was deliberated in meetings held on 16.11.2022 & 18.11.2022 amongst CEA, CTUIL, POSOCO & GETCO wherein following emerged:

- GETCO informed that Sankhari – Prantij 400kV D/c line along with Prantij 400/220kV S/s is currently under tendering stage with target completion by March 2025.
- POWERGRID informed that they have already awarded the Banaskantha – Sankhari 400 kV 2<sup>nd</sup> D/c line.
- To resolve the issues raised by GETCO, it was decided that instead of establishing Banaskantha -Sankhari 400 kV 2<sup>nd</sup> D/c line under ISTS and Sankhari – Prantij 400kV D/c (twin AL-59) line under Intra-state, *Banaskantha – Prantij 400 kV D/c direct line (~150 km.) along with 63 MVar, 420 kV switchable line reactors on each ckt at Prantij S/s end* may be established. This would reduce the fault level at Sankhari to below 40 kA and would also help to feed load in Prantij area directly from Banaskatha (PG) S/s thereby relieving overloading issues on Banaskantha – Sankhari 400 kV D/c line.
- POWERGRID and GETCO were requested to coordinate with each other and confirm the modalities of implementation of Banaskantha – Prantij 400 kV D/c direct line.

3.15.4 In this direction, POWERGRID vide e-mail dated 25.11.2022 informed that although they have awarded transmission Line and S/s Extension packages at both sides (i.e. Banaskantha & Sankhari ends) and construction work is in progress, they are ready to implement Banaskantha – Prantij 400 kV D/c line along with 63 MVar, 420 kV switchable line reactor on each ckt at Prantij S/s end (instead of earlier scope of Banaskantha – Sankhari 400 kV 2<sup>nd</sup> D/c line).

3.15.5 Subsequently, GETCO vide e-mail dated 20.12.2022 informed that in order to avoid sectionalisation arrangement at Sankhari or bypassing of lines at later stage (i.e. idle bays at Sankhari substation), it would be advisable to review the planned scheme at this stage itself. In view of the same, GETCO requested that the Bansakantha - Prantij 400 kV D/c line may be implemented under ISTS and 400 kV D/C Sankhari - Prantij line under Intra-State scheme may be dropped.

3.15.6 In view of the above, CTUIL proposed to revise the scheme as per details given below:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA	765/400 kV, 1500 MVA ICT: 1 No. 765 kV ICT bay – 1 No . 400 kV ICT bay– 1 No.



2	Banaskantha – Prantij 400kV D/c (Quad ACSR/AAAC/AL59 moose equivalent) line along with 63 MVAR, 420 kV switchable line reactors on each ckt at Prantij S/s end	Route length: 150 km  400 kV line bays- 4 Nos. (2 Nos. at Banaskantha and 2 Nos. at Prantij)  63 MVAR, 420 kV Switchable Line Reactors- 4 Nos. (at Prantij end) along with associated switching equipment.
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3.15.7 The estimated Cost of revised scheme is of the order of Rs 840 Cr. as per March 2022, price level. It was discussed that revised scheme proposed by CTUIL has huge change from original scheme in terms of expenditure. It may also necessitate change in implementation mode.

3.15.8 Keeping in view that the scheme allocated to POWERGRID under RTM is already under implementation, NCT gave the direction to review the scheme and come up with an alternate solution in the next sitting.

3.15.9 Accordingly, a meeting was held on 05.01.2023 under the chairmanship of Chairperson, CEA, to discuss the proposal. Representatives of CTUIL, GETCO & POWERGRID participated in the meeting. In the meeting, following was agreed:

- Banaskantha-Sankhari 400 kV 2<sup>nd</sup> D/c line (being implemented by POWERGRID under RTM) may not be terminated at Sankhari S/s, instead it may be terminated on the tower outside Sankhari S/s.
- GETCO to implement the Prantij-Sankhari 400kV D/c line and connect it with Banaskantha- Sankhari 400 kV 2<sup>nd</sup> D/c line being implemented by POWERGRID.
- 400 kV line bays (2 Nos.) at Sankhari S/s may be deleted from the scope of POWERGRID.
- POWERGRID and GETCO would finalize the type of conductor and tower configuration within two weeks to ensure compatibility of the transmission lines being implemented by them.
- POWERGRID and GETCO would implement the complete scope of work in matching timeframe so that no asset remains unutilized.

3.15.10 CTUIL informed that POWERGRID vide email dated 16.01.2023 has forwarded the Minutes of the meeting held on 10.01.2023 between POWERGRID and GETCO in this regard. In the meeting, the implementation modality, location of interconnection and timeframe of the proposed arrangement had been mutually agreed between POWERGRID & GETCO.

3.15.11 NCT noted the same and approved the following revised scope of works of “**Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part C**”

Sl. No.	Original Scope of the Transmission Scheme	Modified scope of the transmission scheme
1	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA  765/400 kV, 1500 MVA ICT: 1 Nos.	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA  765/400 kV, 1500 MVA ICT: 1 Nos.



	765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.	765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.
2	Banaskantha -Sankhari 400 kV 2 <sup>nd</sup> D/c line (26 km)  Line Length : 26 km  400 kV line bays- 4 Nos. (2 Nos. at Banaskantha and 2 Nos. at Sankhari)	Banaskantha- Sankhari section of Banaskantha – Prantij 400 kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent)  Route length: 26 km  400 kV line bays - 2 Nos. (at Banaskantha)

**Implementation Time-frame:** Matching with establishment of Prantij 400/220 kV S/s and Prantij - Sankhari section of Banaskantha – Prantij 400 kV D/c line (presently expected by March, 2025)

**Note:**

- (i) The downstream system to be implemented by GETCO under intra-state with which the developer (POWERGRID) has to match the SCoD is as follows:

Sl. Nos.	Scope of the Transmission Scheme	Capacity /km
1.	Sankhari – Prantij section of Banaskantha – Prantij 400 kV D/c line along with line bays and 63 MVAR, 420 kV switchable line reactors on each ckt at Prantij S/s end	Route length: 125 km (approx.)  400 kV line bays- 2 Nos. (at Prantij S/s)  63 MVAR, 420 kV Switchable Line Reactors- 2 Nos. at Prantij end along with associated switching equipment

**3.16 Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part C3 and E3**

3.16.1 Transmission system for additional 20 GW REZ in Northern Region (Phase-III) was agreed in the 3<sup>rd</sup> NRPC (TP) meeting held on 19.02.2021 and 49<sup>th</sup> Northern Region Power Committee (NRPC) meeting held on 27.09.2021. Subsequently in the 5<sup>th</sup> NCT meeting held on 25.08.2021 & 02.09.2021, above scheme was agreed for implementation. As part of above scheme, in 5<sup>th</sup> NCT meeting, STATCOM along with MSC & MSR each at Ramgarh and Fatehgarh-III PS was also discussed in following two packages:

**A. Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C3**

S.Nos .	Scope of the Transmission Scheme	Capacity (MVAR)	Estimated Cost
1	Ramgarh PS: STATCOM	±2x300 MVAR STATCOM,	Rs 300 Cr

	along with MSC+MSR	4x125 MVar MSC, 2x125 MVar MSR	
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**B. Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part E3**

S.No.	Scope of the Transmission Scheme	Capacity (MVar)
1	Fatehgarh – III PS : STATCOM along with MSC+MSR	$\pm 2 \times 300$ MVar, 4x125 MVar MSC, 2x125 MVar MSR

3.16.2 In the 5<sup>th</sup> NCT meeting, it was deliberated that Battery Energy Storage System could be treated as an alternative to STATCOM and therefore needs to be explored. However, presently due to cost consideration, BESS technology at Grid scale level in India is yet to evolve. Also, RE penetration (solar/Hybrid) is increasing continuously in western Rajasthan and Phase-III transmission system is also under advance stage of approval by GIB committee

Additionally, in Western Rajasthan many issues related to reactive power management i.e. oscillations, abrupt voltage variations, low voltages in peak solar generation period & high voltage in off solar generation period have been observed which also necessitate urgent deployment of STATCOM to support the grid. In various MOP meetings, need of STATCOMs in RE complexes has already been emphasised by various stakeholders viz. SECI, POSOCO etc. Accordingly, CTUIL proposed that the STATCOMs in Ph-III package C3 & E3 may be taken up for implementation.

3.16.3 After deliberations, it was agreed that  $\pm 2 \times 300$  MVar STATCOMs, 4x125 MVar MSC, 2x125 MVar MSR shall be implemented each at Ramgarh PS and Fatehgarh-3 PS. It was also agreed that these STATCOMs will be implemented as part of transmission schemes “Transmission system for evacuation of power from REZ in Rajasthan (20 GW) Phase-III” which are currently at bidding stage and approval from Committee constituted by Hon’ble Supreme Court for implementation of project in GIB area is awaited.

3.16.4 Accordingly, the scope of the two packages i.e. Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part C1 and Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part F are to be modified including the space for future scope agreed earlier as under (additional elements shown in bold font):

**I. Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part C1**

Sl.No.	Original Scope	Revised Scope
1.	Establishment of 2x1500 MVA, 765/400 kV & 2x500 MVA, 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765 kV) Bus Reactor & 2x125 MVar (420 kV) Bus reactor	Establishment of 2x1500 MVA, 765/400 kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765 kV) Bus Reactor & 2x125 MVar (420 kV) Bus Reactor, <b><math>\pm 2 \times 300</math> MVar STATCOM along</b>

<p><u>Capacity</u></p> <p>765/400kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)</p> <p>765 kV ICT bays – 2 Nos.</p> <p>400/220 kV, 500 MVA ICT – 2 Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>220 kV ICT bays – 2 Nos.</p> <p>400 kV line bays - As per connectivity granted to RE developers (2 Nos. of bays considered at present)</p> <p>220 kV line bays -As per connectivity granted to RE developers (4 Nos. of bays considered at present)</p> <p>765 kV line bays – 2 Nos.</p> <p>240 MVar Bus Reactor-2 Nos. (7x80 MVar considering one spare unit)</p> <p>765kV reactor bay- 2 Nos.</p> <p>125 MVar, 420 kV bus reactor – 2 Nos.</p> <p>420 kV reactor bay – 2 Nos.</p> <p><u>Future provisions: Space for</u></p> <p>765/400 kV ICTs along with bays: 3 Nos.</p> <p>765 kV line bay along with switchable line reactor: 2 Nos.</p> <p>765kV Bus Reactor along with bays: 2 Nos.</p> <p>400/220 kV ICTs along with bays: 6 Nos.</p> <p>400 kV line bays along with switchable line reactor: 4Nos.</p> <p>400 kV line bays: 4 Nos.</p>	<p><b>with MSC+MSR</b></p> <p><u>Capacity</u></p> <p>765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)</p> <p>765 kV ICT bays - 2 Nos.</p> <p>400/220 kV, 500 MVA ICT – 2 Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>220 kV ICT bays - 2 Nos.</p> <p>400 kV line bays - 2 Nos.</p> <p>220 kV line bays: 4 Nos.</p> <p>765 kV line bays -2 Nos.</p> <p>240 MVar Bus Reactor-2 Nos. (7x80 MVar considering one spare unit)</p> <p>240 MVar Bus Reactor-2 Nos. (7x80 MVar, including one spare unit)</p> <p>765 kV reactor bay- 2 Nos.</p> <p>125 MVar, 420kV bus reactor - 2 Nos.</p> <p>420 kV reactor bay - 2 Nos.</p> <p><b>400kV Sectionalization bay: 1 set. **</b></p> <p><b>± 2x300MVar STATCOM, 4x125 MVar MSC, 2x125 MVar MSR along with 2 Nos. of 400 kV bays</b></p> <p><u>Future provisions: Space for</u></p> <p><b>765/400kV ICTs along with bays: 5 Nos.</b></p> <p>765 kV line bay along with switchable line reactor: 2 Nos.</p> <p>765 kV Bus Reactor along with bays: 2 Nos.</p> <p><b>400/220 kV ICTs along with bays: 8 Nos.</b></p> <p>400 kV line bays along with switchable line reactor: 4 Nos.</p>
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	400 kV Bus Reactor along with bays: 2 Nos. 400kV Sectionalization bay: 3 Nos. 220 kV line bays: 8 Nos. 220kV sectionalisation bay: 2 Nos.  (Some change in space provision in last NCT)	<b>400 kV line bays: 2 Nos.</b> 400 kV Bus Reactor along with bays: 2 Nos. <b>400 kV Sectionalization bay: 2 sets **</b> <b>220 kV line bays: 11 Nos.</b> 220kV Sectionalization bay: 2 Nos. **
2.	Ramgarh – Bhadla-3, 765 kV D/c line (180 km) along with 240 MVar switchable line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3, 765kV D/c line  <u>Capacity/km</u> Length – 180km 765 kV, 240 MVar switchable line reactor- 2 Nos. Switching equipment for 765 kV 240 MVAR switchable line reactor –2 Nos.	Ramgarh – Bhadla-3, 765 kV D/c line (180 km) along with 240 MVar switchable line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3, 765 kV D/c line  <u>Capacity</u> 765 kV, 240 MVar switchable line reactor- 2 Nos. Switching equipment for 765 kV 240 MVAR switchable line reactor –2 Nos.
3.	2 Nos. of 765 kV line bays at Bhadla-3 <u>Capacity/km</u> 765 kV line bays:- 2 Nos.	2 Nos. of 765 kV line bays at Bhadla-3 <u>Capacity/km</u> 765 kV line bays:- 2 Nos.

Note:

- Implementation schedule of Phase III –Part C1 package is to match with package Phase III –Part B1 (establishment of Bhadla-3 PS, 765 kV Bhadla-3 PS-Sikar-2 D/c line, 400 kV Bhadla-3 PS-Fatehgarh-2 D/c line)
- Developer of Bhadla-3 S/s to provide space for 2 Nos. of 765 kV line bays at Bhadla-3 S/s for termination of Ramgarh – Bhadla-3, 765kV D/c line
- The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- Provision of suitable sectionalization shall be kept at Ramgarh at 400 kV & 220 kV levels to limit short circuit level
- ±300 MVar STATCOM should be placed in each 400 kV bus section of Ramgarh PS**
- Implementation of the scheme to be taken up upon receipt of LTA from RE generation developers at Ramgarh PS/Bhadla-3 PS

**\*\* Bus Sectionalization bay shall comprise of bus sectionalization of both Main Bus-I & Main Bus-II.**

**Implementation Timeframe:** 18 months from date of SPV acquisition.

## II. Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part F

S.No.	Original Scope	Revised Scope
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1.	<p>Establishment of 2x1500 MVA, 765/400 kV Substation at suitable location near Beawar along with 2x330 MVA 765 kV Bus Reactor &amp; 2x125 MVA 420 kV Bus Reactor</p> <p><u>Capacity:</u></p> <p>765/400kV 1500 MVA ICTs: 2 Nos. (7x500 MVA, including one spare unit)</p> <p>330 MVA, 765 kV bus reactor- 2 (7x110 MVA, including one spare unit)</p> <p>765kV ICT bays – 2 Nos.</p> <p>400 kV ICT bays – 2 Nos.</p> <p>765 kV line bays – 6 Nos.</p> <p>400kV line bay- 2Nos.</p> <p>765kV reactor bay- 2 Nos.</p> <p>125 MVA, 420kV bus reactor – 2 Nos.</p> <p>420 kV reactor bay – 2 Nos.</p> <p><u>Future provisions: Space for</u></p> <p>765/400 kV ICTs along with bays: 2 Nos.</p> <p>765 kV line bay along with switchable line reactor: 6Nos.</p> <p>765 kV Bus Reactor along with bays: 2 Nos.</p> <p>400/220 kV ICTs along with bays: 2Nos.</p> <p>400 kV line bays along with switchable line reactor: 4 Nos.</p> <p>400 kV Bus Reactor along with bays: 1Nos.</p> <p>220 kV line bays: 4 Nos.</p>	<p>Establishment of 2x1500 MVA, 765/400 kV Substation at suitable location near Beawar along with 2x330 MVA 765kV Bus Reactor &amp; 2x125 MVA 420 kV Bus Reactor.</p> <p><u>Capacity:</u></p> <p>765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA, including one spare unit)</p> <p>330 MVA, 765 kV bus reactor- 2 (7x110 MVA, including one spare unit)</p> <p>765 kV ICT bays – 2 Nos.</p> <p>400 kV ICT bays – 2 Nos.</p> <p>765 kV line bays – 6 Nos.</p> <p>400 kV line bay- 2Nos.</p> <p>765 kV reactor bay- 2 Nos.</p> <p>125 MVA, 420 kV bus reactor – 2 Nos.</p> <p>420 kV reactor bay – 2 Nos.</p> <p><u>Future provisions: Space for</u></p> <p>765/400 kV ICTs along with bays: 2 Nos.</p> <p><b>765 kV line bay along with switchable line reactor: 8 Nos.</b></p> <p>765 kV Bus Reactor along with bays: 2 Nos.</p> <p>400/220 kV ICTs along with bays: 2 Nos.</p> <p>400 kV line bays along with switchable line reactor: 4 Nos.</p> <p>400 kV Bus Reactor along with bays: 1 No.</p> <p>220 kV line bays: 4 Nos.</p>
2.	LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)	LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
3.	LILO of 400 kV Kota –Merta line at Beawar (20 km)	LILO of 400 kV Kota –Merta line at Beawar (20 km)

4.	Fatehgarh-3– Beawar 765 kV D/c along with 330 MVar Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line  <u>Capacity/km:</u>  Length – 350 km  Switching equipment for 765 kV 330 MVAR switchable line reactor –4 Nos.  765 kV, 330 MVar Switchable line reactor- 4 Nos.	Fatehgarh-3– Beawar 765 kV D/c along with 330 MVar Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line  <u>Capacity/km:</u>  Length – 350 km  Switching equipment for 765 kV 330 MVAR switchable line reactor –4 Nos.  765 kV, 330 MVar Switchable line reactor- 4 Nos.
5.	<b>In earlier scope, STATCOM at Fatehgarh-3 PS was proposed as part of Phase-III Part E3</b>	<b>STATCOM at Fatehgarh-3 PS</b>  <b>±2x300 MVar STATCOM along with 4x125 MVar MSC, 2x125 MVar MSR along with 2 Nos. of 400 kV bays at Fatehgarh-3 PS</b>

Note:

- i. **POWERGRID shall provide space for 2 Nos. of 765 kV line bays at Fatehgarh-3 S/s for Fatehgarh-3– Beawar 765 kV D/c line along with 765 kV switchable line reactors**
- ii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- iii. *Scheme to be awarded after SECI/ /REIA awards first bid of RE project at Fatehgarh-3 (new section and/or Fatehgarh-4).*
- iv. **±300 MVar STACOM should be placed in each 400 kV section of Fatehgarh-3 PS (Phase-III Part E1)**
- v. **POWERGRID shall provide space at Fatehgarh-3 PS for STATCOM along with MSC & MSR and associated 400 kV bays.**

**Implementation Timeframe:** 18 months from date of SPV acquisition

#### **4 Communication schemes for existing ISTS**

##### **4.1 OPGW installation on existing 400 kV Jallandhar (PG) – Kurukshetra (PG) line which is to be LILOed at 400 kV Dhanansu (PSTCL)**

**4.1.1** CTUIL stated that a new substation Dhanansu (PSTCL) has been constructed by PSTCL by LILO of one circuit of 400 kV Jallandhar-Kurukshetra D/c line. The 400 kV Jallandhar-Kurukshetra D/c line is owned by POWERGRID. OPGW on the LILO portion is envisaged along with the construction of the LILO lines by PSTCL. There is no other communication connectivity available to Dhanansu substation. CTU proposed that to provide voice and data communication to Dhanansu (PSTCL) substation, OPGW may be installed on the existing 400 kV Jallandhar (PG) – Kurukshetra (PG) line (229 km) by replacing the existing one No.

earthwire in live line installation alongwith terminal equipment. This will also provide additional redundant path to Jalandhar (PG) & Kurukshetra (PG) important substations of Northern region. Estimated cost of the scheme would be Rs 10.3 crore.

**4.1.2** The scheme was deliberated in the 57<sup>th</sup> NRPC meetings held on 31.08.2022 wherein NRPC had concurred the scheme.

**4.1.3** Regarding timeframe for implementation CTUIL stated that as general consideration, for length less than 200 km, implementation time frame is 18 months and for length greater than 200 km, implementation time frame is 24 months.

**4.1.4** After deliberations the scheme was approved by NCT for implementation of OPGW on existing 400 kV Jalandhar (PG) – Kurukshetra (PG) line (229 km) alongwith terminal equipment under RTM route by owner of the line i.e. POWERGRID with implementation timeframe of 24 months.

**4.2 OPGW installation on existing 400 kV Koldam (Indigrid) – Ludhiana (PG) line which is to be LILOed at 400 kV Ropar (PSTCL)**

**4.2.1** CTUIL stated that a new substation Ropar (PSTCL) has been constructed by PSTCL by LILOing both circuits of 400 kV Koldam (Indigrid) – Ludhiana (PG) line (150 kms.). Owner of 400 kV Koldam (Indigrid) – Ludhiana (PG) line is IndiGrid. There is no other communication connectivity available to Ropar substation. CTU proposed that to provide voice and data communication to Ropar (PSTCL) substation, OPGW may be installed on the existing 400 kV Koldam (Indigrid) – Ludhiana (PG) line (150 km) by replacing the existing one Nos. earthwire in live line installation alongwith terminal equipment. This will also provide additional redundant path to Koldam (Indigrid) & Ludhiana (PG), important substations of Northern region. Estimated cost of the scheme would be Rs 6.7 crore with implementation timeframe of 18 months.

**4.2.2** The scheme was deliberated in the 57<sup>th</sup> NRPC meetings held on 31.08.2022 wherein NRPC had concurred the scheme.

**4.2.3** After deliberations, the scheme was approved by NCT for implementation of OPGW on existing 400 kV Koldam (Indigrid) – Ludhiana (PG) line (150 km) alongwith terminal equipment under RTM route by owner of the line i.e. IndiGrid with implementation timeframe of 18 months.

**4.3 OPGW installation on existing 400 kV Kota – Merta line which is to be LILOed at 765/400 kV Beawar (ISTS) S/s**

**4.3.1** CTUIL stated that a new substation Beawar (ISTS) is proposed to be constructed under TBCB route by LILO of 400 kV Kota – Merta line (256 km). Owner of 400 kV Kota – Merta line is POWERGRID. OPGW on the LILO portion is envisaged along with the construction of the proposed LILO lines under “Transmission system for evacuation of power from REZ in Rajasthan (20 GW), phase III –Part F” under TBCB. CTU proposed that to provide additional redundant path to Beawar (New) S/s, OPGW may be installed on the



existing 400 kV Kota – Merta line (256 km) by replacing the existing one No. earthwire in live line installation alongwith terminal equipment.

**4.3.2** Estimated cost of the scheme would be Rs 11.5 crore with implementation timeframe of 24 months from date of allocation. The scheme was deliberated in the 57<sup>th</sup> NRPC meetings held on 31.08.2022 wherein NRPC had concurred the scheme.

**4.3.3** Director (PSPA-II), CEA, stated that 400 kV Kota – Merta line is already LILOed at Shree Cement TPS and there is no OPGW in that LILO portion. In the 57<sup>th</sup> meeting of NRPC, it was discussed that without decision of installation of OPGW on the LILO portion, there is no point in laying OPGW on main line. NRPC forum had approved the proposal for OPGW alongwith terminal equipment on 400 kV Kota – Merta S/C line (256 kms), however, for 400 kV LILO of Kota – Merta line at Shree Cement (55 kms), forum decided that decision may be taken in upcoming NRPC meetings after receiving inputs from Shree Cement.

**4.3.4** CTUIL stated that Shree Cement was asked for the installation of OPGW on the LILO portion (owned by them) but they stated that OPGW link cannot be commissioned by them. Further, if OPGW in the LILO portion of Shree Cement is not implemented, OPGW on 400 kV Kota – Merta line can be completed with bypassing LILO at Shree Cement.

**4.3.5** It was opined that implementation of OPGW while bypassing LILO at Shree Cement is not desirable. Further, as per MoM of 57<sup>th</sup> meeting of NRPC, the matter is to be re-deliberated in NRPC forum. Hence, it was decided to defer the scheme and the matter would be taken up in NCT once the same is finalized in NRPC forum.

#### **4.4 OPGW replacement on existing 400 kV Agra – Ballabhgarh**

**4.4.1** CTUIL stated that OPGW on 400 kV Agra-Ballabhgarh line (181 km) (line owned by POWERGRID) was commissioned in the year 2004 and has completed its useful life of 15 years. Physical condition of OPGW is deteriorating due to higher deposition of pollutants/contaminants as line is passing through industrial area. Further, higher downtime has been observed due to water ingress and low tensile strength on OPGW and associated hardware fittings. Agra-Ballabhgarh OPGW link is an important ISTS communication link for Northern region as well as for inter-regional data traffic coming from WR, SR, ER, NER towards NR and onwards to NLDC/NRLDC. It was proposed to replace existing OPGW with new OPGW (181 km) in live line condition alongwith terminal equipment. Estimated cost of the scheme would be Rs 9.05 crore with implementation timeframe of 18 months.

**4.4.2** The scheme was deliberated in the 57<sup>th</sup> NRPC meetings held on 31.08.2022 wherein NRPC has concurred the scheme.

**4.4.3** After deliberations, the scheme was approved by NCT for replacement of old OPGW and terminal equipment on existing 400 kV Agra – Ballabhgarh line (181 km) with new OPGW and terminal equipment under RTM route by owner of the line i.e. POWERGRID with implementation timeframe of 18 months.

#### **4.5 OPGW replacement on existing 400 kV Kishenpur – Wagoora line**

**4.5.1** CTU stated that OPGW on 400 kV Kishenpur – Wagoora line (183 km) (owned by POWERGRID) was commissioned in 2005 and has completed its useful life of 15 years.

Design system attenuation of this link was  $\leq 45.91$  dB whereas attenuation presently is around  $\geq 80$  dB. This line is further LILOed at New Wanpoh, therefore link become Kishenpur-New Wanpoh-Wagoora. OPGW on LILO portion was installed in the year 2015 (around 3 kms.) Kishenpur-New Wanpoh-Wagoora link provides backbone connectivity to important hydro stations and several sub-stations of J&K to SLDC/NRLDC/NLDC such as Uri-1, Uri-2, Kishenganga HEP, Baglihar HEP, Amargarh, Wagoora Ramban, New Wanpoh, Alsuteng-Leh Transmission system etc. In view of above constraints and critical nature of the link, replacement of old OPGW on 400 kV Kishenpur-Wagoora line with new OPGW (183 km) except LILO portion at New Wanpoh (3 km) in live line installation alongwith terminal equipment has been proposed with estimated cost of Rs 9.15 Crore and implementation timeframe of 18 months.

**4.5.2** The scheme was deliberated in the 57<sup>th</sup> NRPC meetings held on 31.08.2022 wherein NRPC had concurred the scheme.

**4.5.3** After deliberations, the scheme was approved by NCT for replacement of old OPGW alongwith terminal equipment on 400 kV Kishenpur-Wagoora line with new OPGW (183 km) except LILO portion at New Wanpoh (3 km) and terminal equipment under RTM route by owner of the line i.e. POWERGRID with implementation timeframe of 18 months.

**4.6 Redundant communication System for Bhinmal (PG) and Kankroli (PG) ISTS stations**

**4.6.1** CTU stated that OPGW on 400 kV Jodhpur (Surpura) – Kankroli line was approved in 9<sup>th</sup> NCT alongwith re-conducting work. To utilise this link for ISTS communication redundant path and to make one additional redundant path over RVPNL communication links e.g. Bhinmal- Barmer-Jaisalmer-II-Jodhpur (Kankani)-Jodhpur (Surpura) additional FOTE are required at following RVPNL stations:

- i. Barmer
- ii. Jaisalmer-II
- iii. Jodhpur (Kankani)
- iv. Jodhpur 220 kV
- v. Merta
- vi. Ratangarh
- vii. Ratangarh Sub-LDC
- viii. Beawar

**4.6.2** Further, 5 km OPGW is to be installed on 400 kV Jodhpur (Surpura) – Merta line (RVPNL) upto LILO point at 400 kV Bhadla S/s by replacing one number existing earthwire. The line also belongs to RVPNL.

**4.6.3** Estimated cost of the scheme is Rs 2.55 crore and implementation timeframe is 18 months.

**4.6.4** The scheme was deliberated in the 57<sup>th</sup> NRPC meetings held on 31.08.2022 wherein NRPC had concurred the scheme.

**4.6.5** On being enquired about the implementation of OPGW and terminal equipment on state transmission licensee assets, CTUIL stated that as the communication link is to be utilized for ISTS Communication, accordingly the same has been considered for implementation under ISTS by POWERGRID

**4.6.6** After deliberations, the scheme was approved by NCT for implementation of OPGW (5 km) on 400 kV Jodhpur (Surpura) – Merta line (RVPNL) upto LILO point of 400 kV Bhadla alongwith terminal equipment at Barmer, Jaisalmer-II, Jodhpur (Kankani), Jodhpur 220 kV, Merta, Ratangarh, Ratangarh Sub-LDC and Beawar under RTM route by POWERGRID with implementation timeframe of 18 months.

**4.7 OPGW installation on 220 kV Anta (NTPC) - Bhilwara Line**

**4.7.1** CTU stated that presently Anta (NTPC) is connected with RLDC using Anta (NTPC) -Bassi line (link belongs to PowerTel). This OPGW is old and has lived its useful life. To provide alternate reliable path for Anta (NTPC), OPGW on 220 kV Anta (NTPC)-Bhilwara (187 km) line is proposed. It may also be mentioned that one alternate path over Anta (NTPC) – RAPP-C is already approved under exiting OPGW based communication package NROSS. It was proposed to replace existing earthwire with OPGW in live line condition. Estimated cost of the scheme would be Rs 9.35 crore with implementation timeframe of 18 months.

**4.7.2** The scheme was deliberated in the 58<sup>th</sup> NRPC meetings held on 30.09.2022 wherein NRPC had concurred the scheme.

**4.7.3** After deliberations, the scheme was approved by NCT for implementation of OPGW on existing 220 kV Anta (NTPC) – Bhilwara line (187 km) alongwith terminal equipment under RTM route by owner of the line i.e. POWERGRID with implementation timeframe of 18 months.

**5. Evaluation of functioning of National Grid.**

GRID-India presented the functioning of national grid in Q2 and Q3 of 2022-23. Copy of presentation is at **Annex- II**. Following points were highlighted during the presentation:

- i. The frequency excursions have increased post CERC's DSM regulation (Notified on 5<sup>th</sup> December 2022).
- ii. Under frequency relay (UFR) based load shedding got triggered on two occasions in December 2022.
- iii. Power number was observed to be in the range of 10,000 MW/Hz during grid events.
- iv. Grid Inertia as estimated during grid events was varying between 5.2 sec to 7.4 seconds.
- v. Maintaining resource adequacy is challenging. Lowest wind generation (34.8 MU) in entire calendar year was recorded on 30<sup>th</sup> Aug'22 during high wind season when all-India electricity demand was 194.7 GW while the highest instantaneous RE penetration of 31.8% was recorded on 22<sup>nd</sup> May when all-India electricity demand was low (182.4 GW).
- vi. Several EHV lines had to be switched manually for voltage regulation, particularly in RE pockets. Transmission utilities often express concerns regarding frequent switching of GIS circuit breakers and isolators.
- vii. Several areas in Rajasthan and Maharashtra experience high voltage as well as low voltage.
- viii. 'N-1' insecure operation was observed in intrastate system of Rajasthan.
- ix. There was no RE curtailment in Bikaner complex post implementation of interim arrangement at Bikaner.

- x. Intermittent low frequency (2.5 - 3 Hz) oscillations are being experienced during Solar hours.
- xi. HVDC Raigarh-Pugalur and HVDC Mundra-Mahendragarh were utilized in forward as well as reverse directions for regulating flow on inter- regional AC links. HVDC Mundra-Mahendragarh requires more than 4 hours for reversal as compared to HVDC Raigarh-Pugalur and HVDC Balia-Bhiwadi which takes around 30-45 minutes.
- xii. Operation of HVDC Vindhyachal back to back from WR to NR direction is constrained due to overloading of 400 kV Anpara-Obra line on account of prolonged outage of 765 kV Anpara D – Obra - Unnao line since 8<sup>th</sup> Feb'22, due to Non-availability of line reactor in the Obra-Unnao section at Obra end.
- xiii. RE generation loss in Rajasthan RE complex occurred on 14<sup>th</sup> January 2023 due to tripping of multiple EHV lines as a result of kite flying on Makar Sankranti Festival.

Members appreciated the operational feedback shared by Grid-India. Based on the discussions, following actions points have been decided:

- i. A reasonable time for power reversal on HVDC system needs to be established in consultation with the Transmission utility, CTUIL, CEA & GRID India so that adequate flexibility is available in real-time operations.
  - ii. Grid India shall issue advisory to all transmission utilities regarding the need to sensitize the general public regarding safety concerns associated with kite flying near EHV lines which also threaten the security of the grid if metallic threads are used for kite flying.
  - iii. GRID-India to share brief Note with CEA regarding intrastate transmission constraints in Rajasthan for taking up with Energy Secretary, Govt. of Rajasthan.
  - iv. GRID-India shall share brief Note with CEA for taking up the revival of 765 kV Anpara\_D - Unnao transmission line with Energy Secretary, Govt. of Uttar Pradesh.
  - v. RPCs shall advise SLDCs to share the quarterly operational feedback with RLDCs/RPCs/STU/CTUIL/CEA.
  - vi. The progress of following elements needs to be closely monitored by PSPM Division, CEA, for strengthening the Inter-regional (IR) corridors:
    - a. 3x1500 MVA 765/400 kV ICTs at Kotra S/S
    - b. 765/400 kV ICT-3 at Nizamabad
    - c. 765 kV Warora-Warangal D/C line
    - d. 765 kV Hyderabad-Kurnool D/C line
    - e. 765 kV Narendra-Pune D/c line
    - f. Bypassing of 400 kV Kankroli – Bhinmal - Zerda lines at Bhinmal to form 400 kV Kankroli - Zerda (direct line) and reconductoring of 400 kV Jodhpur (Surpura) (RVPN)-Kankroli-S/C line with twin HTLS conductor.
- 6. Comprehensive presentation by CTU apprising NCT of measures taken for ensuring development of an efficient, co-ordinated and economical ISTS for smooth flow of electricity.**
- 7. Five-year rolling plan for ISTS capacity addition.**

CTUIL made combined presentation on the agenda items Nos. 6 and 7. Copy of presentation is at **Annex- III**. It was mentioned that as per MoP Electricity Rules published in October, 2021, CTUIL is drawing plan for Inter-State Transmission System (ISTS) for up to next five years on Rolling basis every year, identifying specific transmission projects which are required to be taken up along with their implementation time lines. CTU has already published ISTS Planning Procedure, prepared in consultation with STU, CEA, GRID-India, on CTU's website in Dec'2021. As per this procedure, the entire process for transmission planning was decided to be undertaken on continuous basis, involving two cycles i.e. from April to September and October to March. Accordingly, Rolling Plan reports are brought out by CTUIL on half-yearly basis in the months of September and March in every financial year. In this direction, three reports have already been published by CTUIL viz. Network Plan (2024-25) in Dec'21, Rolling Plan (2026-27) in March'22 and Interim Rolling Plan (2027-28) in September'22.

Presentation also covered the Rolling Plan (2026-27) report published by CTUIL in March, 22. It was mentioned that RE Installed Capacity (IC) is expected to increase from 106 GW (27% of total IC) as on Jan'22 to 225 GW (40% of total IC) by 2026-27. CTUIL explained that strong transmission system was planned and implemented in last decade considering the power flow pattern from conventional thermal generation majorly located in eastern part of the country to the other parts of the country. With the advent of the large RE integration in Rajasthan, western region and southern region, power flow patterns on the transmission lines are expected to change depending upon the generation and demand of a region in different seasons as well as during the day. To understand the seasonal and daily power flow patterns on transmission lines, three seasons viz. Monsoon (August), Summer (June) and Winter (February) along with three points on daily load curves i.e. Solar max (afternoon), Peak load (evening) and off-peak load (night) for each season were identified resulting in nine study scenarios. Accordingly, load generation balance (LGB) prepared for the following nine scenarios were presented:

- Aug'26: Solar max (Scenario-1), Evening Peak (Scenario-2) and Night off-peak (Scenario-3)
- June'26: Solar max (Scenario-4), Evening Peak (Scenario-5) and Night off-peak (Scenario-6)
- Feb'27: Solar max (Scenario-7), Evening Peak (Scenario-8) and Night off-peak (Scenario-9)

LGB for critical scenarios i.e., Scenario -5 with maximum demand, Scenario -9 with minimum demand & Scenario -1 with maximum RE generation were discussed in detail. Surplus generation of 33 GW (considering 40% dispatch as technical minimum for thermal generation) indicated the need for storage in solar max scenarios. Regional surplus/deficit and inter regional flows in different scenarios were also presented. It was pointed out that NR shall be importing power during evening peak and night off peak period whereas it shall be exporting power in Solar max scenarios resulting bidirectional power flow on WR-NR and ER-NR corridors It was also informed that as per present market inputs congestion has remained insignificant.

Based on simulation studies of nine scenarios, transmission line flows, transformer loading, voltage and short circuit levels of buses at all- India level for ISTS as well intra state network were analyzed and expected violations were indicated.

Meeting ended with thanks to chair.

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**Summary of the deliberations of the 11<sup>th</sup> NCT meeting held on 28.12.2022 and 17.01.2023.**

(1) ISTS schemes costing less than Rs100 Crs approved by NCT:

Sl. No.	Name of Transmission Scheme	Implementa- tion Mode	Implementati- on timeframe	Allocated to	Estimated Cost (Rs Crs)
1.	ICT Augmentation associated with integration of additional 7 GW RE power from Khavda RE park under Phase-III	RTM route by TSP of Navsari (new) S/s i.e. POWERGRID	In matching timeframe of Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Package B	POWERGRID	58.52
2.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B1	Under RTM to the owner of Gwalior-Satna 765 kV line i.e. Powergrid	In matching timeframe of Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B	POWERGRID	19
3.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C1	RTM route by POWER GRID, the TSP of Jabalpur - Orai 765 kV S/c line.	In matching timeframe of Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C	POWERGRID	0.5

(2) ISTS Communication schemes approved by NCT under RTM route:



Sl. No.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Allocated to	Estimated Cost (Rs Crs)
1.	Supply and Installation of OPGW on existing <b>400 kV Jallandhar (PG) – Kurukshetra (PG) line</b> which is to be LILOed at 400 kV Dhanansu (PSTCL) ( <b>229 km</b> )	RTM	24 months	POWERGRID	10.3
2.	Supply and Installation of OPGW on existing <b>400 kV Koldam (Indigrid) – Ludhiana (PG) line</b> which is to be LILOed at 400 kV Ropar (PSTCL) ( <b>150 km</b> )	RTM	18 months	INDIGRID	6.7
3.	Supply and Installation of OPGW on existing <b>400 kV Agra – Ballabgarh line (181 km) - Replacement</b>	RTM	18 months	POWERGRID	9.05
4.	Supply and Installation of OPGW on existing <b>400 kV Kishenpur – Wagoora line (183 km) - Replacement</b>	RTM	18 months	POWERGRID	9.15
5.	Redundant communication System for <b>Bhinmal (PG) and Kankroli (PG) ISTS stations</b>	RTM	18 months	POWERGRID	2.55
6.	Redundant communication Path for Anta (NTPC) in view of AGC operation  (Supply and Installation of OPGW on existing <b>220 kV Anta (NTPC) – Bhilwara line (187 km)</b> )	RTM	18 months	POWERGRID	9.35

(3) ISTS Transmission schemes, costing between Rs 100 Crore to Rs 500 Crore, approved by NCT:

The transmission schemes approved by NCT under RTM is given below:

Sl. No.	Name of Transmission Scheme	Implementation Mode	Implementation timeframe	Allocated to	Estimated Cost (Rs Crs)
1.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part A	RTM	18 months	POWERGRID	126.09

4. ISTS Transmission schemes costing greater than Rs 500 Crores, recommended by NCT to MoP:

4.1 The ISTS transmission schemes recommended by NCT to MoP are given below:

Sl. No.	Transmission Scheme	Implementation Mode	Implementation timeframe	Survey Agency	Estimated Cost (Rs Crs)
1.	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part A	TBCB	24 months from SPV transfer	RECPD CL	3036.77
2.	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B	TBCB	24 months from SPV transfer	PFCCL	4231.49
3.	Transmission scheme for evacuation of power from Dhule 2 GW REZ	TBCB	24 months from SPV transfer	PFCCL	637
4.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B	TBCB	24 months from SPV transfer	RECPD CL	1200
5.	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C	TBCB	24 months from SPV transfer	RECPD CL	555
6.	Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)	TBCB	Progressively from 1 <sup>st</sup> July, 2026	CTUIL	2286

7.	Transmission scheme for drawal of 4000 MW power by MPSEZ Utilities Limited (MUL)	TBCB	21 months from SPV transfer	CTUIL	2200
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4.2 The broad scope of ISTS schemes recommended by NCT to MoP for implementation through TBCB mode, to be notified in Gazette of India is as given below:

Sl. No.	Name of Scheme & Implementation timeframe	Broad Scope	Bid Process Coordinator
1)	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part A Implementation timeframe: 24 months	(i) Establishment of 765 kV Halvad switching station with 765 kV, 2x330 MVAR bus reactors (ii) KPS2(GIS) - Halvad 765 kV D/c line (iii) 240 MVAR switchable line reactor on each ckt at both ends of KPS2- Halvad 765 kV D/c line. (iv) 2 Nos. of 765 kV GIS line bays at KPS2 for termination of KPS2 - Halvad 765 kV D/c line (v) LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad <b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b>	To be decided by MoP.
2)	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B Implementation timeframe: 24 months	(i) Establishment of 765 kV switching station near Vataman with 2x330MVAR, 765 kV bus reactor (ii) Halvad – Vataman 765 kV D/c line (iii) 1x330 MVAR switchable line reactor on each ckt. at Vatman end of Halvad – Vataman 765 kV D/c line (iv) 2 Nos. of 765 kV line bays at Halvad end for termination of Halvad – Vataman 765 kV D/c line (v) LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV	

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Sl. No.	Name of Scheme & Implementation timeframe	Broad Scope	Bid Process Coordinator
		<p>switching station</p> <p>(vi) 240 MVA<sub>r</sub> 765 kV switchable line reactor on each ckt at Vataman end of Lakadia – Vataman 765 kV D/c line with NGR bypassing arrangement</p> <p>(vii) Vataman switching station – Navsari (New)(GIS) 765 kV D/c line</p> <p>(viii) 330 MVA<sub>r</sub> switchable line reactors on each ckt at Navsari (New) (GIS) end of Vataman switching station – Navsari (New) (GIS) 765 kV D/c line</p> <p>(ix) 2 Nos. of 765 kV GIS line bays at Navsari (New) for termination of Vataman switching station – Navsari (New)(GIS) 765 kV D/c line</p> <p><b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b></p>	
3)	<p>Transmission scheme for evacuation of power from Dhule 2 GW REZ</p> <p>Implementation timeframe: 24 months</p>	<p>(i) Establishment of 4x500 MVA, 400/220 kV Pooling Station near Dhule along with 2x125 MVA<sub>r</sub> (420 kV) Bus Reactor</p> <p>(ii) Dhule PS – Dhule (BDTCL) 400 kV D/c Line (Quad ACSR/AAAC/AL59 Moose equivalent ) (60 km)</p> <p>(iii) 2 Nos. 400 kV line bays at Dhule(BDTCL) for Dhule PS – Dhule (BDTCL) 400 kV D/c Line</p> <p><b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b></p>	To be decided by MoP.
4)	<p>Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B</p> <p>Implementation timeframe: 24 months</p>	<p><b>(i)</b> Establishment of 2x1500 MVA, 765/400 kV, 2x500 MVA, 400/220 kV, S/s at Karera (near Datiya) along with 1x330 MVA<sub>r</sub> 765 kV bus reactor &amp; 1x125 MVA<sub>r</sub>, 420 kV bus</p>	To be decided by MoP.

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Sl. No.	Name of Scheme & Implementation timeframe	Broad Scope	Bid Process Coordinator
		reactor. <b>(ii)</b> LILO of Satna-Gwalior 765 kV S/c line at Karera <b>(iii)</b> Installation of 1x330 MVar, switchable line reactor at Karera end of Karera – Satna 765 kV line  <b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b>	
5)	Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C  Implementation timeframe: 24 months from date of allocation.	<b>(i)</b> Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA 400/220 kV S/s at Ishanagar (New) along with 1x330 MVar 765 k & 1x125 MVar, 420 kV bus reactors <b>(ii)</b> LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar (New) 765 kV S/s <b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b>	To be decided by MoP.
6)	Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW) Implementation timeframe: Progressively from 1 <sup>st</sup> July, 2026	<b>(i)</b> Establishment of 2x315 MVA 400/220 kV GIS Pooling Station at Jhangi <b>(ii)</b> 400 kV Jhangi PS – Wangtoo (Quad) D/c line ( <i>Line capacity shall be 2500 MVA per circuit at Nominal voltage</i> ) <b>(iii)</b> 1x125 MVAR, 420 kV Bus reactor at Jhangi PS <b>(iv)</b> LILO of one circuit of Jhangi PS - Wangtoo (HPPTCL) 400 kV D/c (Quad) line <sup>s</sup> at generation switchyard of Shongtong HEP <b>(v)</b> Wangtoo (HPPTCL) - Panchkula (PG) 400 kV D/c (Twin HTLS*) line along with 80 MVar switchable line reactor at Panchkula end on each circuit -	To be decided by MoP.

Sl. No.	Name of Scheme & Implementation timeframe	Broad Scope	Bid Process Coordinator
		<p>210 km</p> <p><sup>s</sup> Line capacity shall be 2500 MVA per circuit at Nominal voltage</p> <p>* with minimum capacity of 2100 MVA on each circuit at Nominal voltage</p> <p><b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b></p>	
7)	Transmission scheme for drawal of 4000 MW power by MPSEZ UTILITIES LIMITED (MUL)	<p>(1) Establishment of 4x1500 MVA, 765/400 kV Navinal(Mundra) S/s (GIS) with 2x330 MVAR, 765 kV &amp; 1x125 MVA<sub>r</sub>, 420 kV bus reactors</p> <p>(2) LILO of Bhuj-II – Lakadia 765 kV D/c line at Navinal(Mundra) (GIS) S/s with associated bays at Navinal(Mundra) (GIS) S/s</p> <p>(3) Installation of 1x330 MVA<sub>r</sub> switchable line reactor on each ckt at Navinal end of Lakadia – Navinal 765 kV D/c line (formed after above LILO)</p> <p><b>(Detailed scope as approved by 11<sup>th</sup> NCT and subsequent amendments, if any)</b></p>	To be decided by MoP.

**5. Modification in the scope of works of Transmission Scheme approved/ recommended in previous meetings of NCT:**

- (i). The time-line of implementation of the following schemes may be reduced from **24 months to 21 months**:
- Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park
  - Transmission scheme for injection beyond 3 GW RE power at Khavda PS1 (KPS1)
  - Establishment of Khavda Pooling Station-3 (KPS3) in Khavda RE Park

- (ii). Change in scope of the "Transmission scheme for evacuation of 4.5 GW RE Injection at Khavda PS under Phase-II- Part B"

ii.1 Revised scope of "Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase-II Part B" as given below:

- Lakadia PS – Ahmedabad 765 kV D/c line (200 km.)
- 2 Nos. of 765 kV line bays at Lakadia PS for Lakadia PS – Ahmedabad 765 kV D/c line
- 240 MVar, 765 kV switchable line reactor for each circuit at Ahmedabad end of Lakadia PS – Ahmedabad 765 kV D/c line)

- (iii). Modifications in the scheme "Transmission scheme for evacuation of 4.5 GW RE injection at Khavda PS under Phase II- Part D".

S.No.	Scope of the Transmission Scheme (Original)	Scope of the Transmission Scheme (Revised)
1.	LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS conductor alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor (with OPGW for both main & LILO portion) and Bay upgradation work at Pirana (T) along with requisite FOTE - to be awarded to TPGL	LILO of Pirana (PG) – Pirana (T) 400 kV D/c line at Ahmedabad S/s with twin HTLS conductor alongwith reconductoring of Pirana (PG) – Pirana (T) line with twin HTLS conductor (with OPGW for both main & LILO portion) and Bay upgradation work at Pirana (T) <b>and at Pirana (PG)</b> along with requisite FOTE - to be awarded to TPGL
2.	Bay upgradation work at Pirana (PG) along with requisite FOTE - to be awarded to Powergrid.	

- (iv). Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C1:

Sl.Nos.	Original Scope	Revised Scope
4.	Establishment of 2x1500 MVA, 765/400kV & 2x500 MVA, 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus reactor  <u>Capacity</u> 765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)	Establishment of 2x1500 MVA, 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus Reactor, <b>± 2x300MVar STATCOM along with MSC+MSR</b>  <u>Capacity</u> 765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA including one spare unit)



<p>765kV ICT bays –2 Nos.</p> <p>400/220 kV, 500 MVA ICT – 2Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>220 kV ICT bays – 2 Nos.</p> <p>400 kV line bays - As per connectivity granted to RE developers (2 Nos. of bays considered at present)</p> <p>220 kV line bays -As per connectivity granted to RE developers (4 Nos. of bays considered at present)</p> <p>765 kV line bays – 2 Nos.</p> <p>240 MVAr Bus Reactor-2 Nos.</p> <p>(7x80 MVAr considering one spare unit)</p> <p>765kV reactor bay- 2 Nos.</p> <p>125 MVAr, 420kV bus reactor – 2 Nos.</p> <p>420 kV reactor bay – 2 Nos.</p> <p><u>Future provisions: Space for</u></p> <p>765/400 kV ICTs along with bays: 3Nos.</p> <p>765 kV line bay along with switchable line reactor: 2Nos.</p> <p>765 kV Bus Reactor along with bays: 2 Nos.</p> <p>400/220 kV ICTs along with bays: 6 Nos.</p> <p>400 kV line bays along with switchable line reactor: 4Nos.</p> <p>400 kV line bays: 4 Nos.</p> <p>400 kV Bus Reactor along with bays: 2 Nos.</p> <p>400 kV Sectionalization bay: 3 Nos.</p> <p>220 kV line bays: 8 Nos.</p> <p>220 kV sectionalisation bay: 2 Nos.</p>	<p>76 5kV ICT bays - 2 Nos.</p> <p>400/220 kV, 500 MVA ICT – 2 Nos.</p> <p>400 kV ICT bays – 4 Nos.</p> <p>220 kV ICT bays - 2 Nos.</p> <p>400 kV line bays - 2 Nos.</p> <p>220 kV line bays: 4 Nos.</p> <p>765 kV line bays -2 Nos.</p> <p>240 MVAr Bus Reactor-2 Nos.</p> <p>(7x80 MVAr considering one spare unit)</p> <p>240 MVAr Bus Reactor-2 Nos. (7x80 MVAr, including one spare unit)</p> <p>765kV reactor bay- 2 Nos.</p> <p>125 MVAr, 420kV bus reactor - 2 Nos.</p> <p>420 kV reactor bay - 2 Nos.</p> <p><b>400 kV Sectionalization bay: 1 set. **</b></p> <p><b>± 2x300 MVAr STATCOM, 4x125 MVAr MSC, 2x125 MVAr MSR along with 2 Nos. of 400 kV bays</b></p> <p><u>Future provisions: Space for</u></p> <p><b>765/400 kV ICTs along with bays: 5 Nos.</b></p> <p>765kV line bay along with switchable line reactor: 2Nos.</p> <p>765 kV Bus Reactor along with bays: 2 Nos.</p> <p><b>400/220 kV ICTs along with bays: 8 Nos.</b></p> <p>400 kV line bays along with switchable line reactor: 4 Nos.</p> <p><b>400 kV line bays: 2 Nos.</b></p> <p>400 kV Bus Reactor along with bays: 2 Nos.</p> <p><b>400 kV Sectionalization bay: 2 sets **</b></p> <p><b>220 kV line bays: 11 Nos.</b></p>
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	(Some change in space provision in last NCT)	220 kV Sectionalization bay: 2 Nos. **
5.	Ramgarh – Bhadla-3 765 kV D/c line (180 km) along with 240 MVar switchable line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3 765kV D/c line  765 kV, 240 MVar switchable line reactor- 2 Nos.  Switching equipment for 765 kV 240 MVAR switchable line reactor –2 Nos.	Ramgarh – Bhadla-3 765 kV D/c line (180 km) along with 240 MVar switchable line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3 765 kV D/c line  765 kV, 240 MVar switchable line reactor- 2 Nos.  Switching equipment for 765 kV 240 MVAR switchable line reactor –2 Nos.
6.	2 Nos. of 765 kV line bays at Bhadla-3, 765 kV line bays:- 2Nos.	2 Nos. of 765 kV line bays at Bhadla-3, 765 kV line bays:- 2Nos.

Note:

- vii. Implementation schedule of Phase III –Part C1 package is to match with package Phase III –Part B1 (establishment of Bhadla-3, PS, 765 kV Bhadla-3 PS-Sikar-2 D/c line, 400 kV Bhadla-3 PS-Fatehgarh-2 D/c line)
- viii. Developer of Bhadla-3 S/s to provide space for 2 Nos. of 765 kV line bays at Bhadla-3 S/s for termination of Ramgarh – Bhadla-3, 765 kV D/c line
- ix. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- x. Provision of suitable sectionalization shall be kept at Ramgarh at 400kV & 220kV level to limit short circuit level
- xi.  $\pm 300$  MVar STATCOM should be placed in each 400 kV bus section of Ramgarh PS**
- xii. Implementation of the scheme to be taken up upon receipt of LTA from RE generation developers at Ramgarh PS/Bhadla-3 PS

**\*\* Bus Sectionalization bay shall comprise of bus sectionalization of both Main Bus-I & Main Bus-II.**

**Implementation Timeframe:** 18 months from date of SPV acquisition.

- (v). Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part F

S.Nos.	Original Scope	Revised Scope
6.	Establishment of 2x1500 MVA, 765/400 kV Substation at suitable location near Beawar along with 2x330 MVar 765 kV Bus Reactor & 2x125 MVar 420kV Bus Reactor  <u>Capacity:</u>  765/400kV 1500 MVA ICTs: 2 Nos. (7x500 MVA, including one spare unit)  330 MVar, 765 kV bus reactor- 2 (7x110	Establishment of 2x1500 MVA, 765/400 kV Substation at suitable location near Beawar along with 2x330 MVar 765kV Bus Reactor & 2x125 MVar 420 kV Bus Reactor.  <u>Capacity:</u>  765/400 kV 1500 MVA ICTs: 2 Nos. (7x500 MVA, including one spare unit)  330 MVar, 765 kV bus reactor- 2 (7x110

	<p>MVAr, including one spare unit)</p> <p>765 kV ICT bays – 2 Nos.</p> <p>400 kV ICT bays – 2 Nos.</p> <p>765 kV line bays – 6 Nos.</p> <p>400 kV line bay- 2 Nos.</p> <p>765 kV reactor bay- 2 Nos.</p> <p>125 MVAr, 420 kV bus reactor – 2 Nos.</p> <p>420 kV reactor bay – 2 Nos.</p> <p><u>Future provisions: Space for</u></p> <p>765/400 kV ICTs along with bays: 2 Nos.</p> <p>765 kV line bay along with switchable line reactor: 6 Nos.</p> <p>765 kV Bus Reactor along with bays: 2 Nos.</p> <p>400/220 kV ICTs along with bays: 2 Nos.</p> <p>400 kV line bays along with switchable line reactor: 4 Nos.</p> <p>400kV Bus Reactor along with bays: 1 No.</p> <p>220 kV line bays: 4 Nos.</p>	<p>MVAr, including one spare unit)</p> <p>765kV ICT bays – 2 Nos.</p> <p>400 kV ICT bays – 2 Nos.</p> <p>765 kV line bays – 6 Nos.</p> <p>400kV line bay- 2 Nos.</p> <p>765kV reactor bay- 2 Nos.</p> <p>125 MVAr, 420kV bus reactor – 2 Nos.</p> <p>420 kV reactor bay – 2 Nos.</p> <p><u>Future provisions: Space for</u></p> <p>765/400 kV ICTs along with bays: 2 Nos.</p> <p><b>765kV line bay along with switchable line reactor: 8Nos.</b></p> <p>765kV Bus Reactor along with bays: 2Nos.</p> <p>400/220 kV ICTs along with bays: 2Nos.</p> <p>400 kV line bays along with switchable line reactor: 4 Nos.</p> <p>400 kV Bus Reactor along with bays: 1 No.</p> <p>220 kV line bays: 4 Nos.</p>
7.	LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45km)	LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45km)
8.	LILO of 400 kV Kota –Merta line at Beawar (20 km)	LILO of 400 kV Kota –Merta line at Beawar (20 km)
9.	<p>Fatehgarh-3– Beawar 765 kV D/c along with 330 MVAr Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line</p> <p><u>Capacity/km:</u></p> <p>Line Length – 350 km</p> <p>Switching equipment for 765 kV 330 MVAR switchable line reactor –4 Nos.</p>	<p>Fatehgarh-3– Beawar 765 kV D/c along with 330 MVAr Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line</p> <p><u>Capacity/km:</u></p> <p>Line Length: 350 km</p> <p>Switching equipment for 765 kV 330 MVAR switchable line reactor –4 Nos.</p>

	765 kV, 330 MVar Switchable line reactor- 4 Nos.	765 kV, 330 MVar Switchable line reactor- 4 Nos.
10.	<b>In earlier scope, STATCOM at Fatehgarh-3 PS was proposed as part of Phase-III Part E3</b>	<b>STATCOM at Fatehgarh-3 PS</b> <b>±2x300 MVar STATCOM along with 4x125 MVar MSC, 2x125 MVar MSR along with 2 Nos. of 400 kV bays at Fatehgarh-3 PS</b>

Note:

- vi. **POWERGRID shall provide space for 2 Nos. of 765 kV line bays at Fatehgarh-3 S/s for Fatehgarh-3– Beawar 765 kV D/c line along with 765 kV switchable line reactorS**
- vii. The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- viii. *Scheme to be awarded after SECI/ /REIA awards first bid of RE project at Fatehgarh-3 (new section and/or Fatehgarh-4).*
- ix. **±300 MVar STACOM should be placed in each 400 kV section of Fatehgarh-3 PS (Phase-III Part E1)**
- x. **POWERGRID shall provide space at Fatehgarh-3 PS for STATCOM along with MSC & MSR and associated 400 kV bays.**

**Implementation Timeframe:** 18 months from date of SPV acquisition

(vi). **Transmission Network Expansion in Gujarat to increase ATC from ISTS: Part C”**

Sl. No.	Original Scope of the Transmission Scheme	Modified scope of the transmission scheme
1	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA  765/400 kV, 1500 MVA ICT: 1 Nos. 765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.	Augmentation of transformation capacity at 765/400 kV ICT Banaskantha S/S by 1x1500 MVA  765/400 kV, 1500 MVA ICT: 1 Nos. 765 kV ICT bay – 1 No. 400 kV ICT bay– 1 No.
2	Banaskantha -Sankhari 400 kV 2 <sup>nd</sup> D/c line (26 km)  Line Length : 26 km  400 kV line bays- 4 Nos. (2 Nos. at Banaskantha and 2 Nos. at Sankhari)	Banaskantha – Sankhari section of Banaskantha – Prantij 400 kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent)  Line Length : 26 km  400 kV line bays- 2 Nos. (at Banaskantha)

**Implementation Time-frame:** Matching with establishment of Prantij 400/220 kV S/s and Prantij - Sankhari section of Banaskantha – Prantij 400 kV D/c line (presently expected by March, 2025)

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Annex-I**List of participants of the 11<sup>th</sup> meeting of NCT held on 28<sup>th</sup> December, 2022 (1<sup>st</sup> Sitting) and 17<sup>th</sup> January' 2023 (2<sup>nd</sup> Sitting)****CEA:**

1. Sh. Ghanshyam Prasad, Chairperson, CEA & Chairman, NCT
2. Sh.A. K. Rajput, Member (PS)
3. Sh. Ishan Sharan, Chief Engineer (PSPA-I)
4. Sh. B.S. Bairwa, Director (PSPA-II)
5. Smt. Manjari Chaturvedi, Director (PSPA-I)
6. Sh. J. Ganeswara Rao, Deputy Director (PSPA-I)
7. Ms. Priyam Srivastava, Deputy Director (PSPA-I)
8. Sh. Vikas Sachan, Deputy Director (PSPA-I)
9. Sh. Suyash Ayush Verma, Deputy Director (PSPA-II)
10. Sh. Deepanshu Rastogi, Deputy Director (PSPA-II)
11. Sh. Nitin Deswal, Assistant Director (PSPA-I)
12. Sh. Kanhaiya Kushwaha, Assistant Director (PSPA-I)
13. Sh. Ajay Malav, Assistant Director (PSPA-II)
14. Sh. Prateek Jadaun, Assistant Director (PSPA-II)

**MoP:**

1. Sh. Goutam Ghosh, Director (Trans.)

**MNRE:**

1. Sh. Dilip Nigam, Adviser

**Expert Member:**

1. Dr. R. Saha

**SECI**

1. Sh. S.K. Mishra, Director
2. Sh. R.K. Agarwal, Consultant

**NITI Aayog**

1. Sh. Manoj Kr. Upadhyay

**CTUIL:**

1. Sh. P.C. Garg, COO
2. Sh. Ashok Pal, Deputy COO
3. Sh. P.S. Das, Sr.GM
4. Sh. V. Thiagarajan, Sr. GM
5. Sh. Kashish Bhambhani, GM
6. Sh. Pratyush Singh, Manager

7. Sh. Chinmay Sharma, Manager
8. Sh. Shashank Shekhar, Dy. Manager
9. Miss Namrata Singh, Engineer

**GRID India:**

1. Sh. S.R. Narasimhan, CMD
  2. Sh. Surajit Banerjee, CGM
  3. Sh. Vivek Pandey, GM
  4. Sh. Priyam Jain, Manager
  5. Sh. Prabhankar Porwal, Dy. Manager
- .....



# 11<sup>th</sup> Meeting of National Committee on Transmission (Second Sitting)

Grid Performance – 2<sup>nd</sup> & 3<sup>rd</sup> Quarter (2022-23)



**Grid Controller of India Limited**

formerly Power System Operation Corporation Ltd. (POSOCO)

**National Load Despatch Center**

# CONTENTS

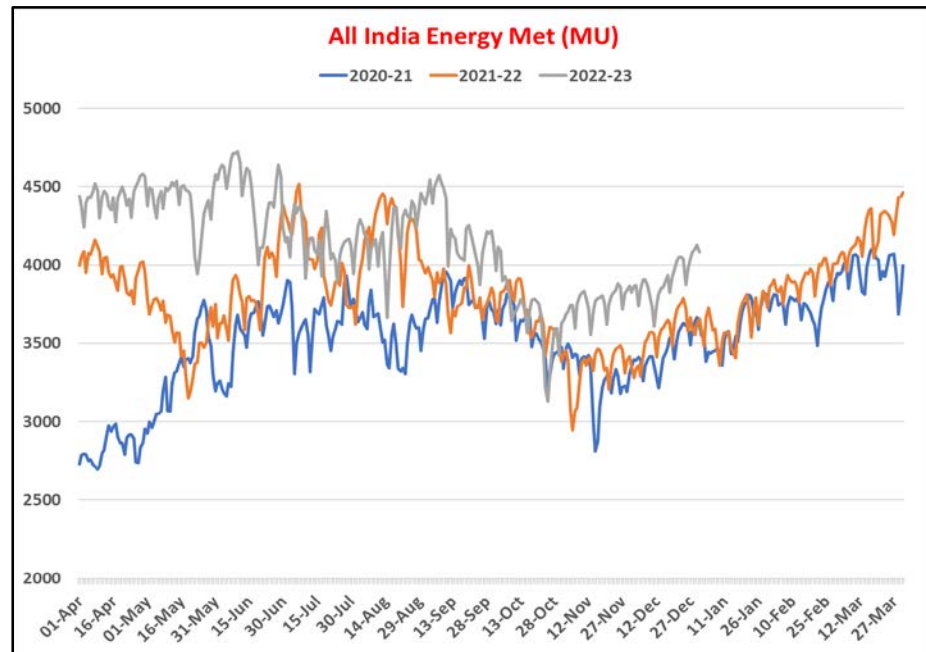
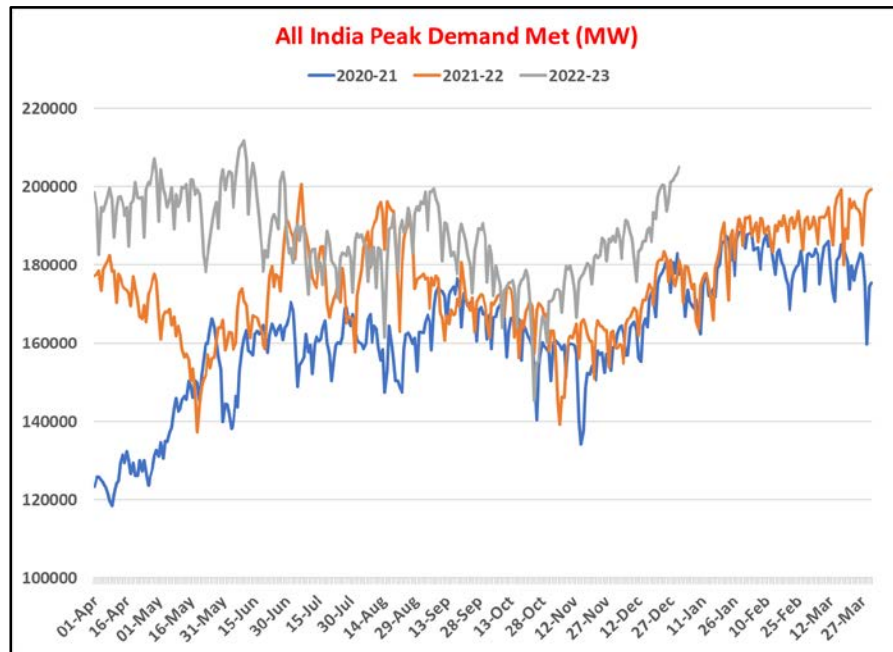
- **Overview of Grid Operation –Q2 & Q3 FY 2022-23**
  - All India Demand met, Energy consumption
  - Frequency profile
  - Primary Response and Inertia
- **Reliability issues experienced in NR RE Complexes in Q2 and Q3 of 2022**
  - N-1 Non-compliance of 400kV Bikaner(PG)-Bikaner(RS) line
  - Low Frequency Oscillations in Rajasthan RE Complex
- **Constraints in Inter-regional Corridors**
- **High and Low Voltage Nodes**
- **Major elements Commissioned – Q2 & Q3 FY 2022-23**
- **Other operational issues**
  - Constraint in HVDC flexible operation
  - Transmission Line and ICT Constraints
  - Important Elements under Construction
  - AGC Performance

# Overview of Grid Operation –Q2 & Q3 FY 2022-23

All India Demand met	2022-23	
	Q2(July-Sep)	Q3(Oct-Dec)
Maximum (MW)	<b>199 472</b> <b>(07-Sep-2022)</b>	<b>205 031</b> <b>(31-Dec-2022)</b>
Minimum	<b>142 665</b> <b>(16-Aug-2022)</b>	<b>107 792</b> <b>(25-Oct-2022)</b>

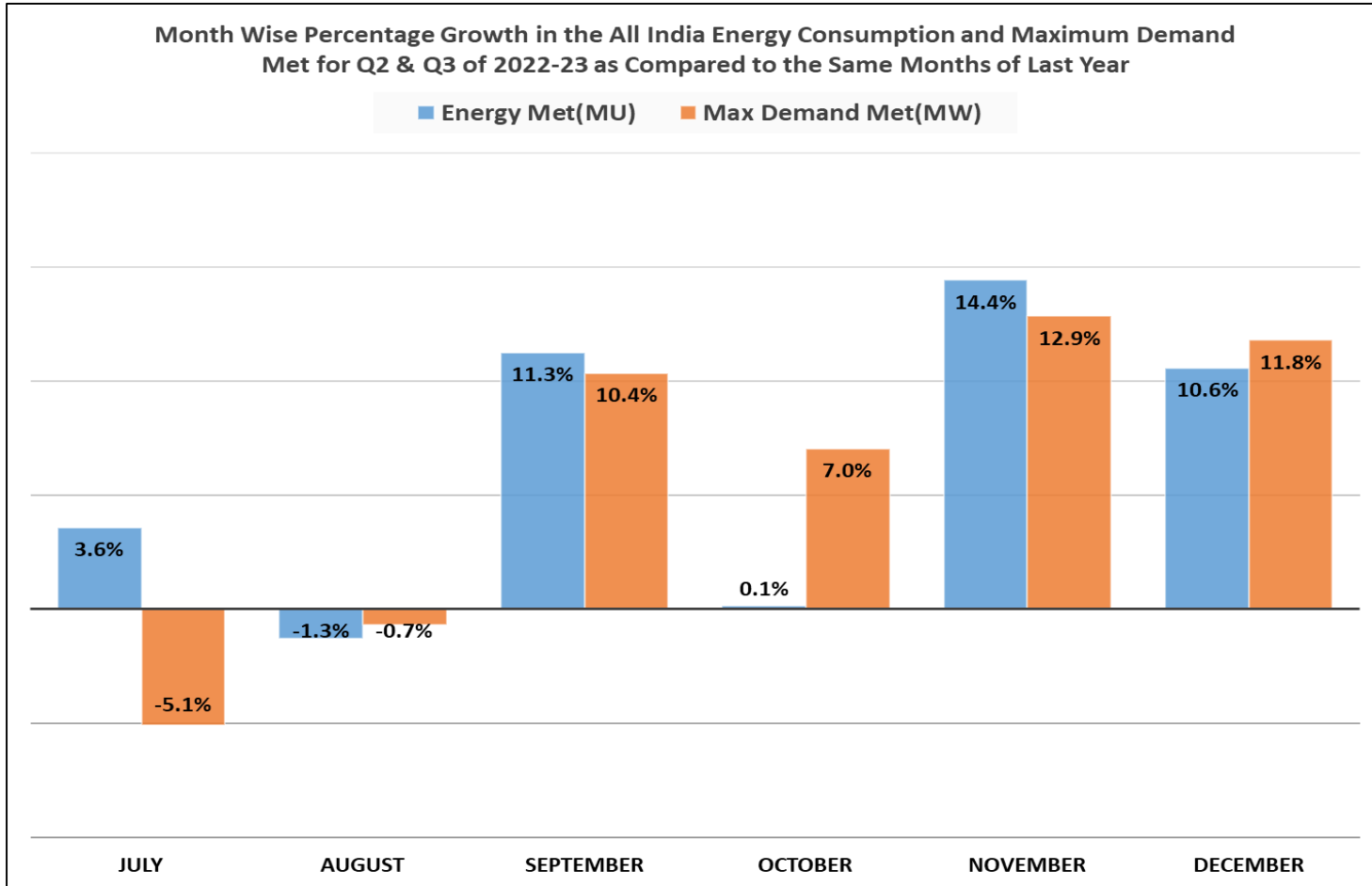
(Sitrang cyclone)

# All India Daily Energy Met and Peak Demand of FY 2022-23, 2022-21 & 2020-21



Significant increase in both Maximum Demand and Energy Met in Q2 & Q3 of FY 2022-23 as compared to same quarter of previous year

# All India Percentage Growth in the Energy Consumption and Maximum Demand Met



# All Time Highest Figures

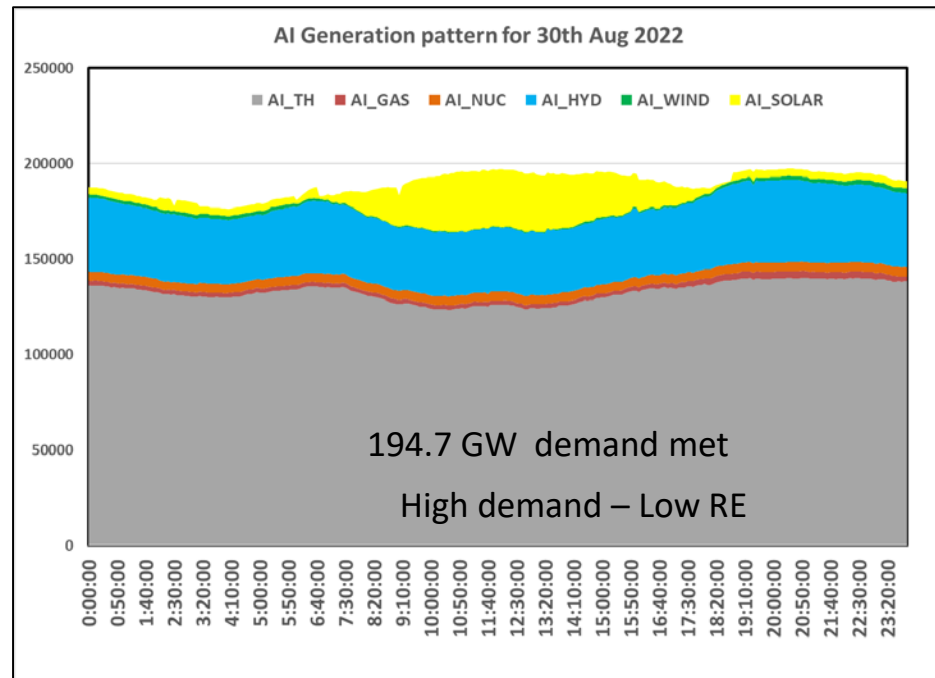
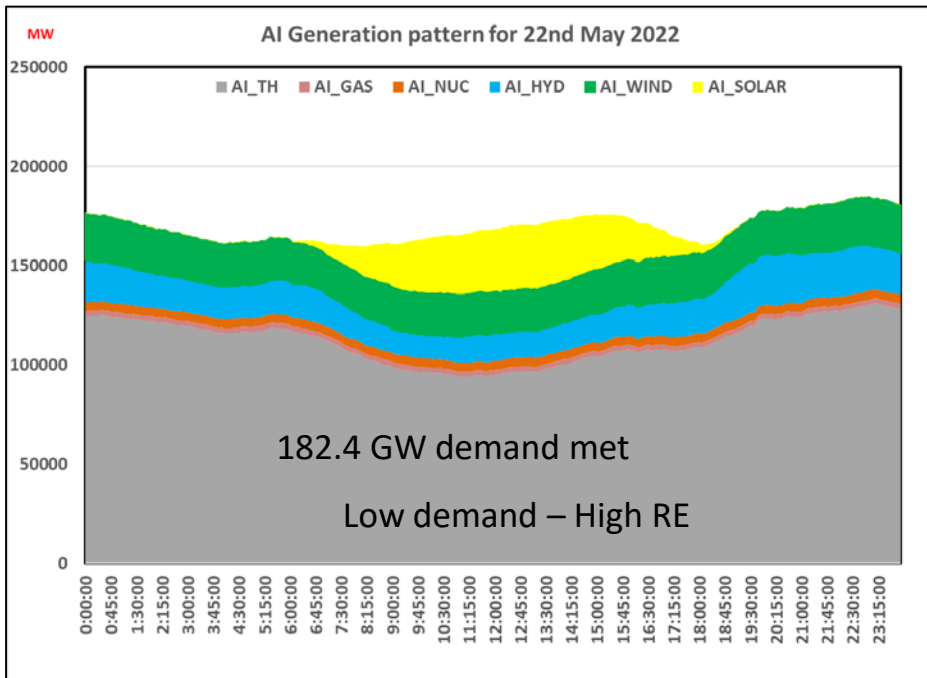
## In Q2 & Q3 of FY – 2022-23 (Till 16<sup>th</sup> Jan 2023)

Regions	Maximum Demand Met during the day(MW)	Demand Met During Evening Peak hrs(MW)	Energy Met(MU)	Hydro Gen(MU)	Wind Gen(MU)	Solar Gen(MU)
NR	77091 28-06-2022	71909 09-09-2022	1737 28-06-2022	420.3 22-08-2022	78.4 09-06-2022	124.8 03-10-2022
WR	73004 03-01-2023	62370 20-04-2022	1531 29-04-2022	167 18-12-2014	271.7 22-05-2022	58.5 16-01-2023
SR	60814 01-04-2022	50436 24-02-2020	1255.1 03-04-2021	208 31-08-2018	296.9 12-07-2022	140.5 01-09-2022
ER	27430 05-08-2022	26837 30-09-2022	597.6 18-08-2022	157.4 14-09-2022	-	6.3 10-06-2022
NER	3596 17-08-2022	3510 12-08-2022	69.2 11-08-2022	40.5 01-08-2022	-	2.4 22-06-2022
All India	211856 10-06-2022	197630 28-06-2022	4722.4 10-06-2022	877.5 30-08-2022	554.8 22-05-2022	314.4 16-01-2023
All India Thermal (MW)		All India Hydro (MW)		All India Wind (MW)		All India Solar (MW)
152203 31-12-2022		43252 30-08-2022		24585 22-05-2022		42457 16-01-2023



# Resource Adequacy Challenge

- Challenges in resource adequacy due to variability of RE
- Reserve requirement and system constraints would vary
- Planning studies for 8760 hrs. essential



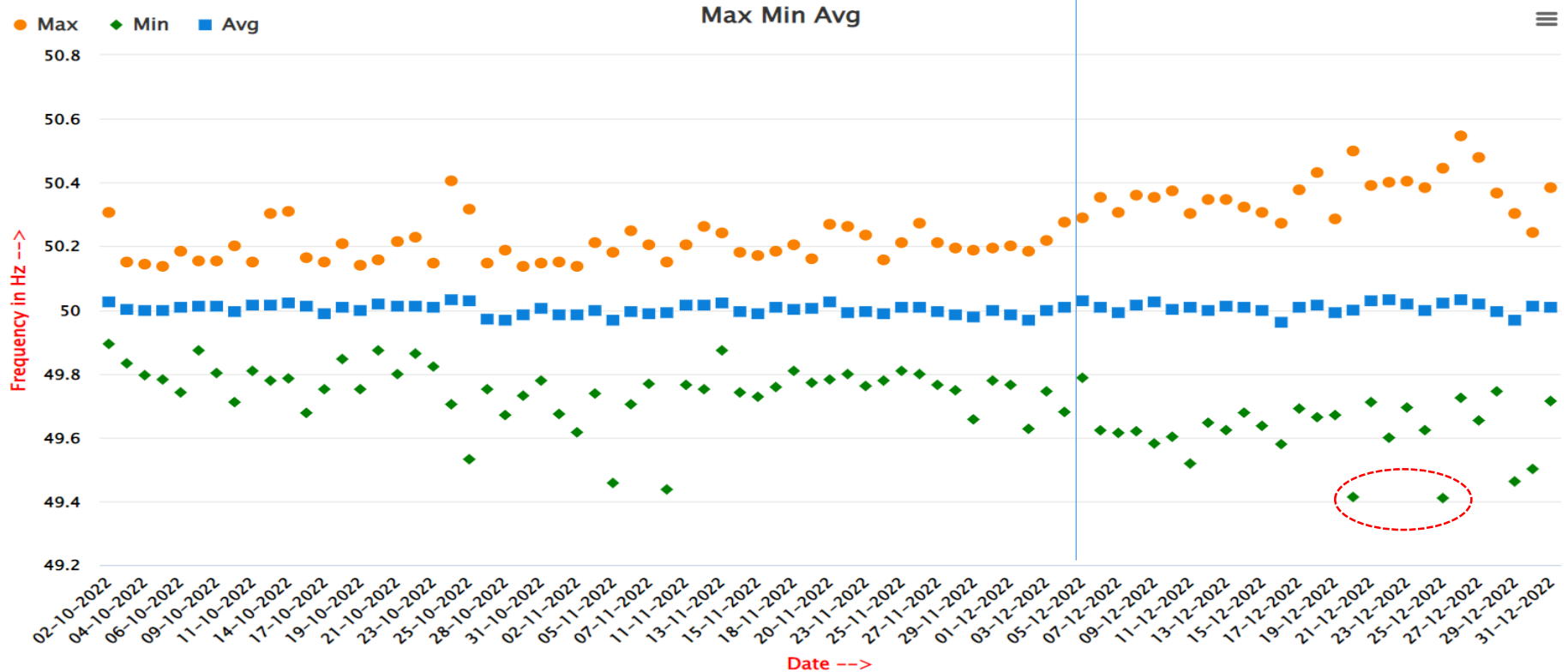
Highest Instantaneous RE penetration (in Q1 FY 2022-23) of ~31.8 % was recorded on 22<sup>nd</sup> May 2022 (Sunday)

Lowest wind generation (34.8 MU) in entire calendar year was recorded on 30<sup>th</sup> Aug'22 (Tuesday).

# Frequency (Q2 & Q3 of 2022-23)

Range	Q2(July-Sep)	Q3(Oct-Dec)
49.90 - 50.05	76.6 %	69.88 %
> 50.05	15.7 %	21.67 %
< 49.9	7.7 %	8.45 %
< 49.7	0.4 %	0.48 %
Maximum	50.31 (15-Aug-2022)	50.55 (26-Dec-2022)
Minimum	49.42 (18-Jul-22)	49.41 (25 - Dec-22)

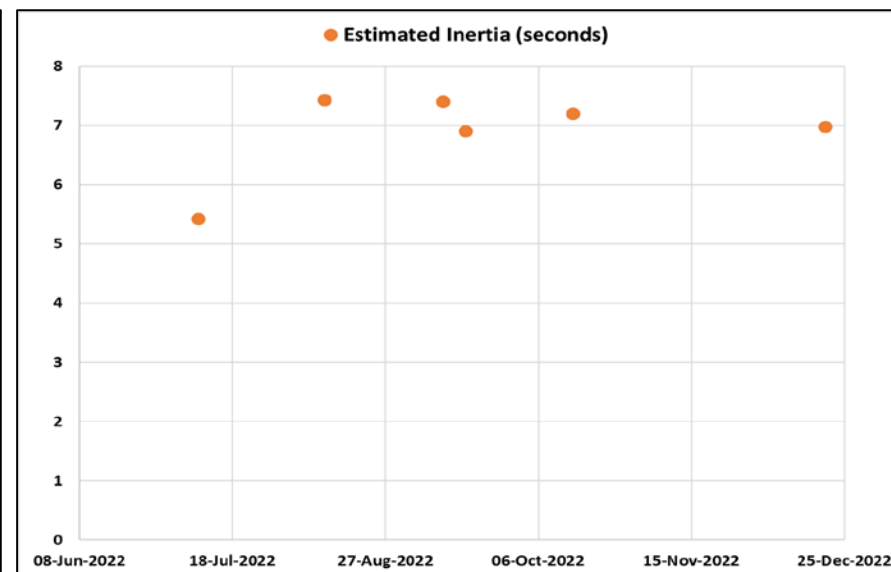
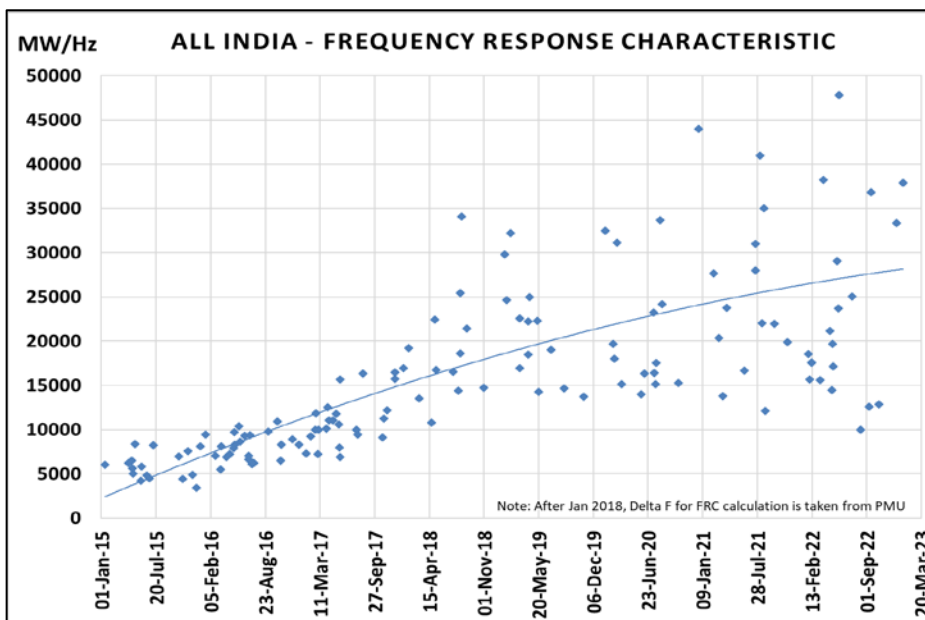
# Frequency Profile for Q3 of FY 2022-23



UFR triggered on 20<sup>th</sup> Dec 2022 in WR (446 MW), SR (6.83 MW) & NR (294 MW) &  
on 25<sup>th</sup> Dec 2022 in SR (411 MW) & NR (705 MW)

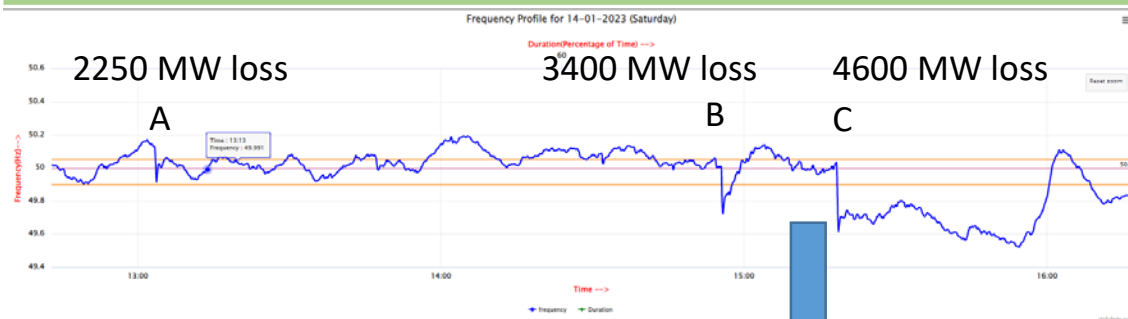
# Frequency Response Characteristics for Contingencies Q2 & Q3 of FY 2022-23

Date (DD-MMM-YY)	Time (HH:MM)	Event Location	Total Generation loss (MW)	All INDIA FRC (MW/HZ)	Power Number (MW/HZ)	Estimated Inertia (s)
9-Jul-22	13:42	Rajasthan Renewable Generation Complex	3507	25050	8812	5.4
11-Aug-22	11:22	Rajasthan Renewable Generation Complex	6157	10013	7724	7.4
11-Sep-22	12:22	Rajasthan Renewable Generation Complex	3800	12583	8768	7.4
17-Sep-22	12:22	Rajasthan Renewable Generation Complex	2333	36825	9113	6.9
15-Oct-22	11:23	Rajasthan Renewable Generation Complex	3150	12859	9323	7.2
20-Dec-22	6:48	Jhajjar TPS (APCPL)	1400	33333	10219	6.9



[Details of FRC Events](#)

# ~4600 MW RE Generation Loss Event on 14 Jan 2023



6 lines of 765 kV tripped  
7 lines of 400 kV tripped

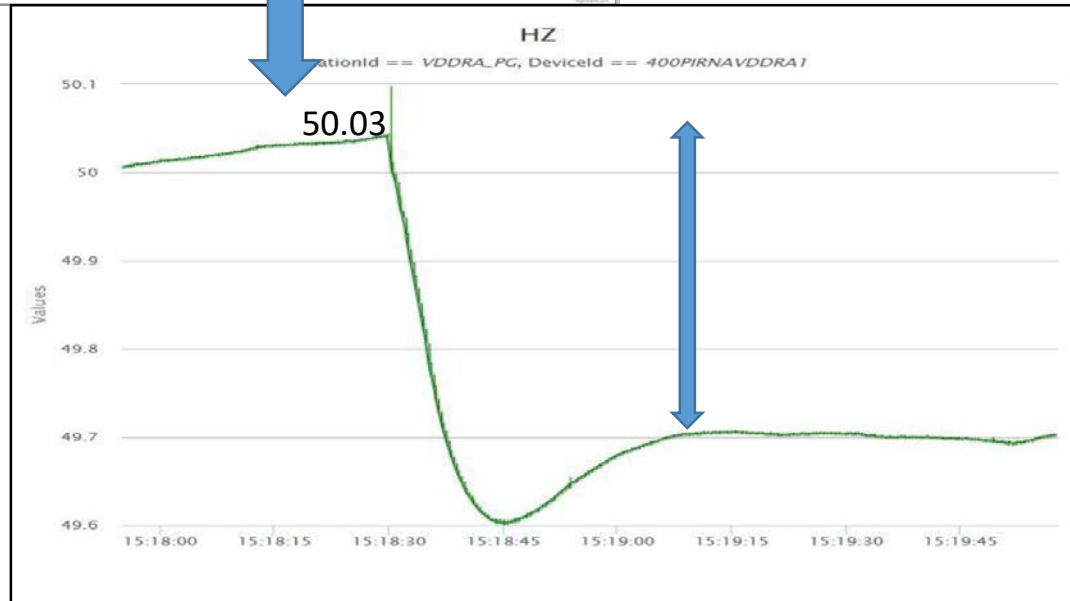
SPS operation at Bikaner  
for Overloading of 400 kV Bikaner\_PG-Bikaner\_RJ

Makar Sankranti Day

Kite Flying

3 consecutive events

Outage of EHV line on fault  
followed by multiple line  
tripping on Over voltage



> Reference  
contingency of  
4500 MW

FRC  
13500  
MW/Hz

# Reliability issues experienced in NR RE Complexes

- Frequent events involving RE Generation loss
- Low frequency (2.5-3 Hz) low amplitude oscillations during Solar hours
- Heavy reactive drawal by load ( $\sim 0.7$  pf) as well as RE stations
- Low voltage in Rajasthan (Alwar, Hindaun voltage  $\sim 340$  kV)
- N-1 non-compliance of STU network of RRVPNL
  - 400/220 kV ICTs at Ajmer, Bikaner\_RJ, Hindaun, [Merta](#), [Chittorgarh](#)

# RE Contingencies for Q2 & Q3 FY 2022-23

S. No	Date	Time	Event	All INDIA FRC(MW/HZ)	Power Number (MW/HZ)
1	09-Jul-22	13:42	Solar generation loss of <b>3507 MW</b> observed in NR/Rajasthan	<b>25050</b>	<b>8812</b>
2	11-Aug-22	11:22	RE Generation loss of <b>6157MW</b> at Bhadla(PG), Bhadla2(PG), Fatehgarh2(PG) & Bikaner(PG) and load shedding of around 850 MW (400MW in UP, 200MW in Punjab & 150MW in Haryana control area) occurred post fault on 220kV Bhadla-Clean Solar Jodhpur Ckt (Y-B Fault), Multiple 765kV lines and 220kV lines to RE stations tripped due to over voltage.	<b>10013</b>	<b>7724</b>
3	11-Sep- 22	12:22	RE Generation loss of <b>3800 MW</b> occurred at Fatehghar & Bhadla post tripping of 220kV Bhadla – CSP Jodhpur on phase to phase fault. Four number of 765kV lines emanating from solar complex also tripped.	<b>12583</b>	<b>8768</b>
4	17-Sep- 22	10:44	RE generation loss of <b>2122 MW</b> occurred at Fatehgarh& Bhadla generation complex post tripping of 220kV Fatehgarh2-AHEJ2L ckt due to R-phase CT blast at Fatehgarh2 end. After nearly 5sec,765kV Fatehgarh2-Bhadla ckt-2 tripped on over voltage. Voltage of 822kV observed from PMU data at Fatehgarh2 end.	<b>53050</b>	<b>8488</b>
5	15-Oct-22	11:23	At 11:23 hrs 765 KV Phagi(RS)-Bhiwani(PG) Ckt-1 tripped along with 765 kV Bus-1 at Bhiwani (PG), At the same time Renewable generation reduction of around <b>3150 MW</b> reported in Rajasthan Renewable generation complex of Northern Region	<b>12859</b>	<b>9323</b>

Large RE Generation Loss Events in 2022



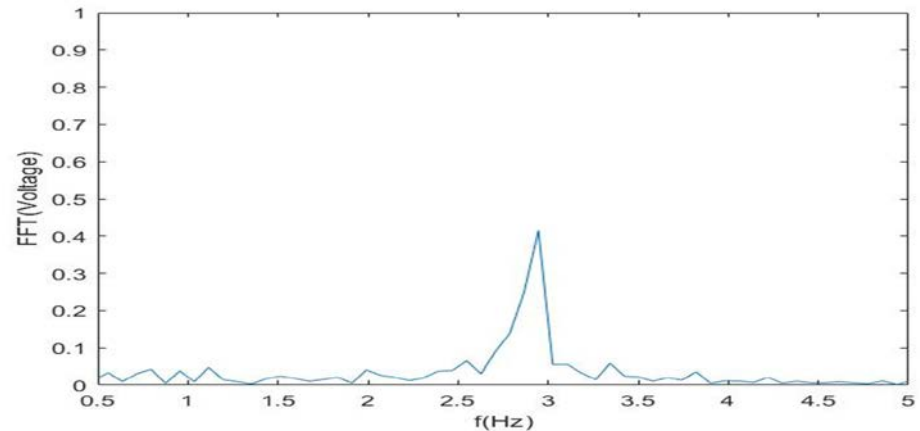
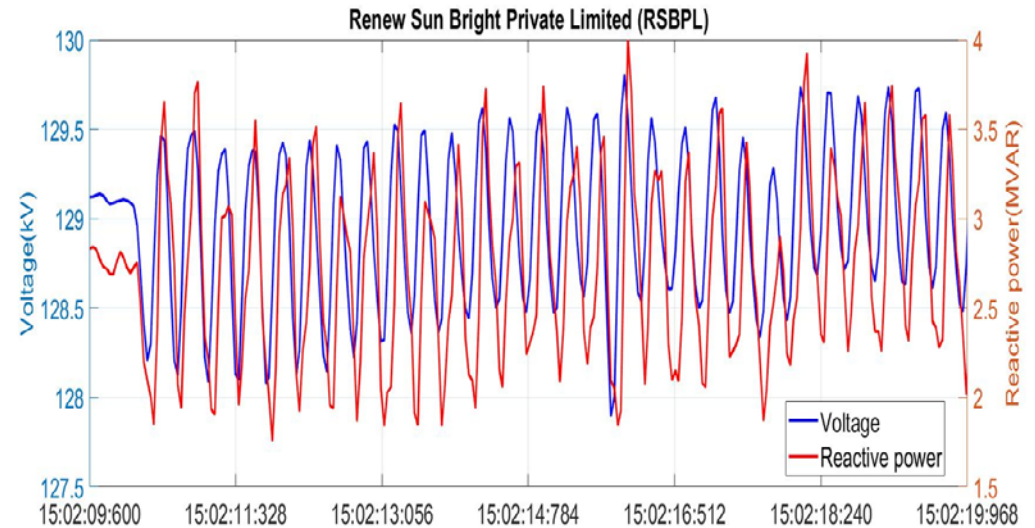
# Consecutive Generation Loss Events in Rajasthan on 14th Jan 2023

Event Time	Approx. Solar Generation Loss	Elements Tripped
11:22 Hrs	420 MW	1. 220 KV Fatehgarh_II(PG)- ASEJOL_HB FTGH2 CKT-1
13:03 Hrs	2250 MW	1. 765 kV Ajmer-Bhadla_2 (PG) CKT-2 (R-N Fault) 2. 220 KV Fatehgarh_II (PG)- Asejol_Hybrid Ckt1 (Overloading) & 2 (OV)
14:55 Hrs	3398 MW	1. 400 kV Bassi-Heerapura ckt-1 (Y-N Fault) 2. 765 kV Ajmer-Bhadla 2 ckt 1 (OV) 3. 765 kV Fatehgarh 2-Bhadla ckt 1 (OV) 4. 765 kV Fatehgarh 2 -Bhadla 2 ckt 1 (OV) 5. 400 kV Adani Fatehgarh – Fatehgarh 2 ( PG ) ckt 1 (OV) 6. 400 kV Kolayat NTPC 1– Kolayat NTPC 2 ckt 1 (OV) 7. 400 kV Bhadla – Bhadla 2 ckt 1 (OV)
15:18 Hrs	4600 MW	1. 400 kV Phagi-Heerapura ckt-1 (R-Y Fault) 2. 765kV Bikaner-Moga ckt 1 & ckt 2(OV) 3. 765kV Bikaner- Khetri Ckt 1(OV) 4. 765kV Bikaner-Bhadla ckt 1(OV) 5. 765kV Bikaner-Bhadla2 ckt 1(OV) 6. 765kV Fatehgarh-Bhadla ckt 2(OV) 7. 400kV Adani Fatehgarh – Fatehgarh 2 ( PG ) ckt 2(OV) 8. 400kV Bhadla – Bhadla 2 ckt 1 & 2 (OV) 9. 400kV Bhadla –Merta(OV) 10. 400kV Bhadla – Ramgarh ckt 1 & 2 (Distance Protection)

SPS at Bikaner\_PG acted

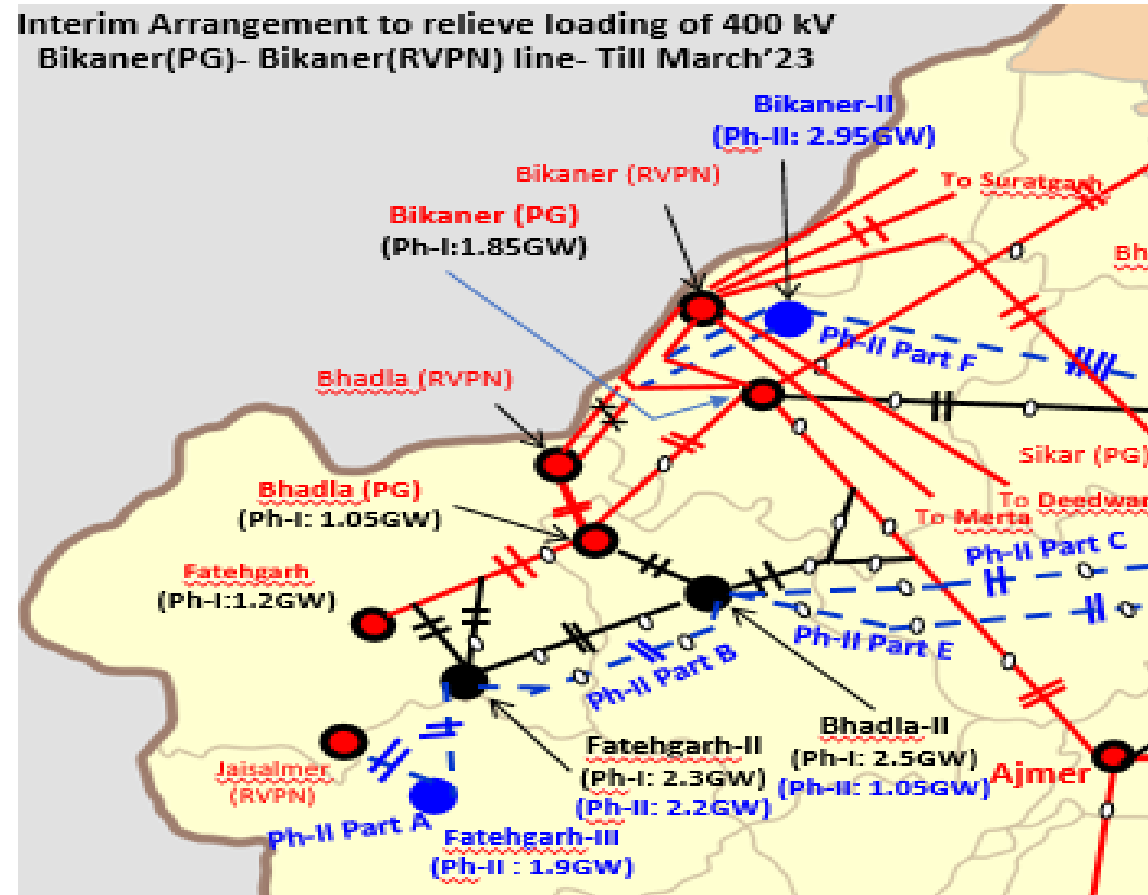
# Low-Frequency Oscillations Observed in Rajasthan RE Complex

- The low-frequency oscillations (2.5 to 3 Hz) were observed during the solar hours on regular occasions with 15-25 occurrences of per day since mid- December.
- Intermittent oscillations during solar hours.
- Voltage oscillation magnitude (peak to peak 1.5kV)
- Time period of oscillation varied from 260ms to 400ms.
- Predominant at 400kV Fatehgarh(Adani), 400kV Fatehgarh(PG) , Bikaner, Bhadla and Bhadla-2 stations.
- Low short circuit level



# Interim arrangement for evacuation of RE generation at Bikaner

Interim Arrangement to relieve loading of 400 kV  
Bikaner(PG)- Bikaner(RVPN) line- Till March'23



Transmission Constraints leading curtailment of total 298MW STOA (10% of total approved STOA (2839MW), 2.6% of total approved LTA/MTOA/STOA (11399MW)) quantum RE resources in the complex for peak solar hour (10:30 hrs - 14:00 hrs).

## INTERIM ARRANGEMENT for partial relief in constraint

Bypassing of 400 kV Bikaner (PG) – Bhadla (RS) and 400 kV Bikaner(RS)-Bhadla (RS) at 400 kV Bhadla (RS) to create direct 400 kV Bikaner(PG)-Bikaner (RS)-2

Implemented from 23.12.2022

No curtailment at present, all RE generation is being harnessed

# 400kV Bikaner(PG)-Bikaner(RS) D/C SPS

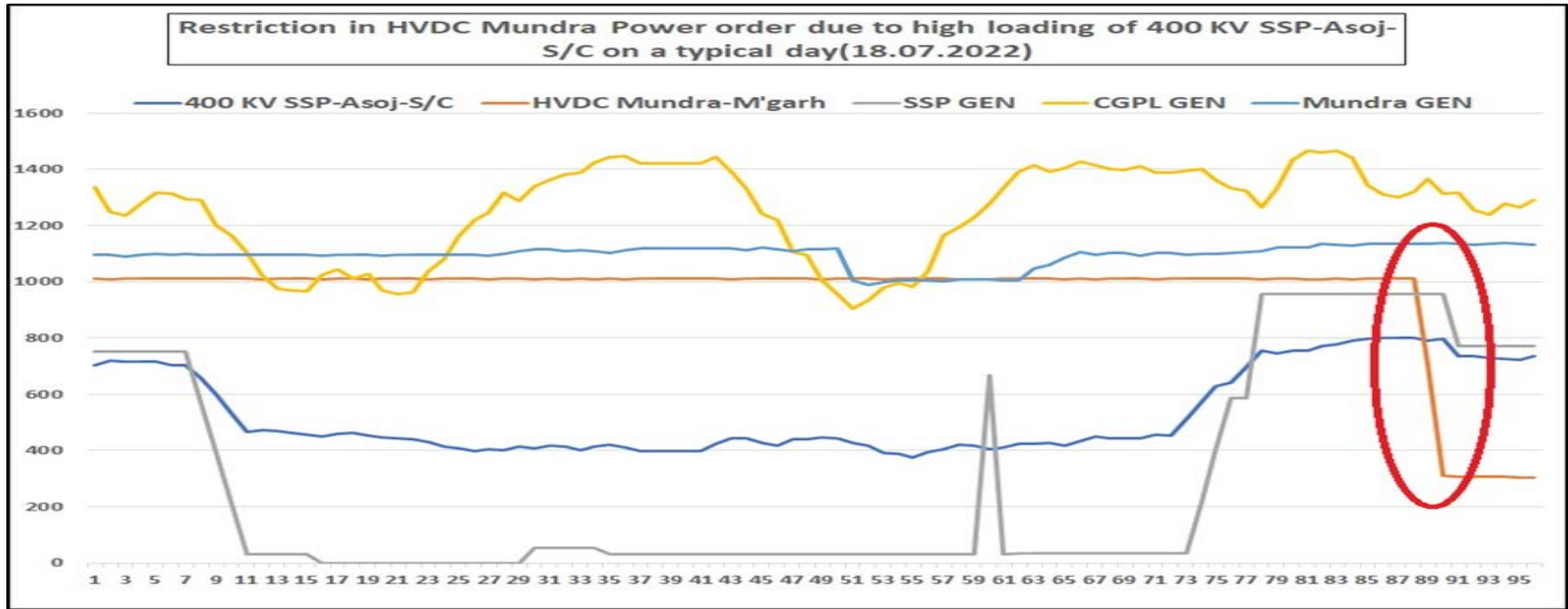
Antecedent Condition	SPS Action
Loading on any circuit of 400kV Bikaner (PG)-Bikaner (RVPN) D/c line exceeds 1450 MW	Stage – 1: Tripping of RE Generations connected at 220kV Bikaner(PG) [Existing-737.5 MW] : Relieve the loading 400kV Bikaner(PG)-Bikaner(RS) line by 219 MW <u>(Implemented)</u>
	Stage – 2: Tripping of RE Generation [Renew] connected at 400kV Bikaner(PG): would relive the loading 400kV Bikaner(PG)-Bikaner(RS) line by 120MW <u>(Implemented)</u>
	Even after above trip, in case of loading of 400kV Bikaner (PG)-Bikaner (RVPN) line >1450 MW, 400kV Bikaner (RVPN)-Sikar (PG) line (in service) shall be tripped <b>(3<sup>rd</sup> Stage is tested at PG end and yet to be tested at Rajasthan end).</b>

## Way Ahead:

- Expedite commissioning of
  - 400kV Bikaner-II (PG) S/s
  - 400kV Bikaner(PG)- Bikaner-II (PG) D/C line
  - 400kV Bikaner-II (PG)-Khetri (PG) lines
  - 765/400kV, 1500MVA ICT-3 at 765kV Bikaner(PG)
- Commissioning of balanced Phase-II system commensurately to meet the planned cumulative capacity of Phase-I & Phase-II.

# Constraints in Flexible Operation of HVDC

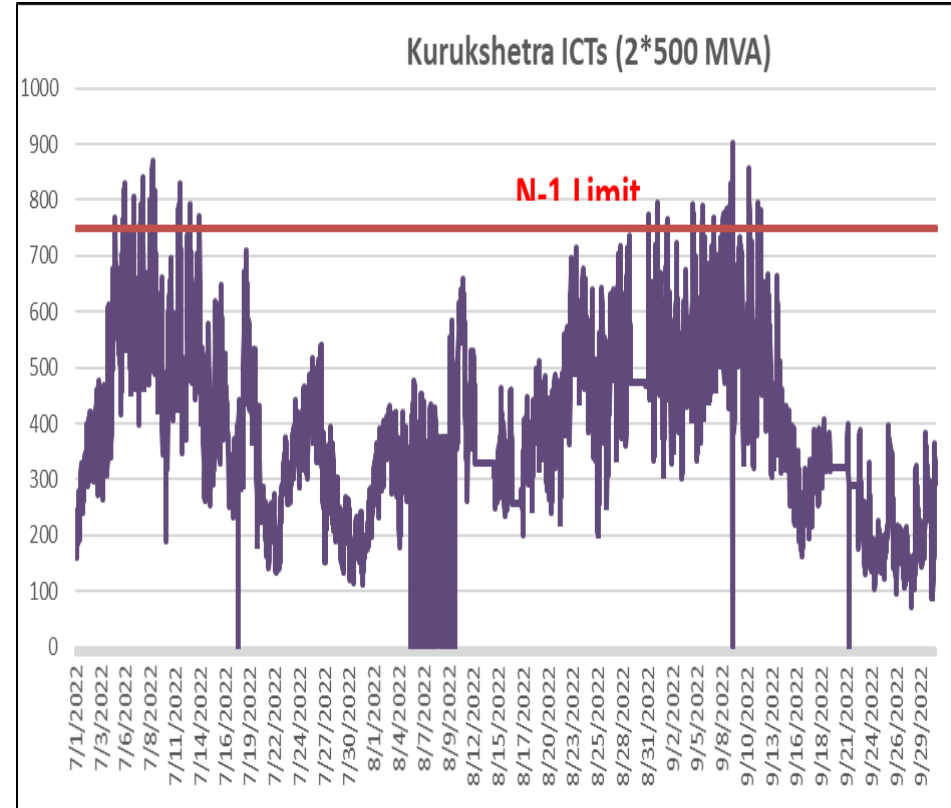
## HVDC Mundra – Mahendragarh



- At the time of low generation in CGPL and APL Mundra generation complexes along with high power order on HVDC Mundra-Mahendergarh link, it has been observed that loading of 400 kv SSP-ASOJ is very high
- SSP generation and HVDC Mundra power order have 31% and 4 % sensitivity respectively on loading of 400 kv SSP-Asoj
- **As per discussion in 522nd WRPC OCC meeting, high Loading on 400 kv SSP-Asoj can be reduced if SSP-Asoj and Asoj – Chorania lines are bypassed at Asoj to make 400 kv SSP- Chorania**

## Constraint in HVDC Champa-Kurukshetra

- At the time of high import of NR, HVDC Champa Kurukshetra (4x1500 MW) is required to be operated at its rated capacity of 6000 MW.
- However, at Kurukshetra end, there is only two 400/220 kV, 500 MVA ICTs which becomes N-1 non-compliant if HVDC power order is above 5000 MW.
- HVDC Champa Kurukshetra power order has 6.5 % sensitivity on Kurukshetra ICTs loading.
- **Commissioning of New 500MVA ICT approved in 4 NRPCTP held on 05.10.2021 to be expedited.**

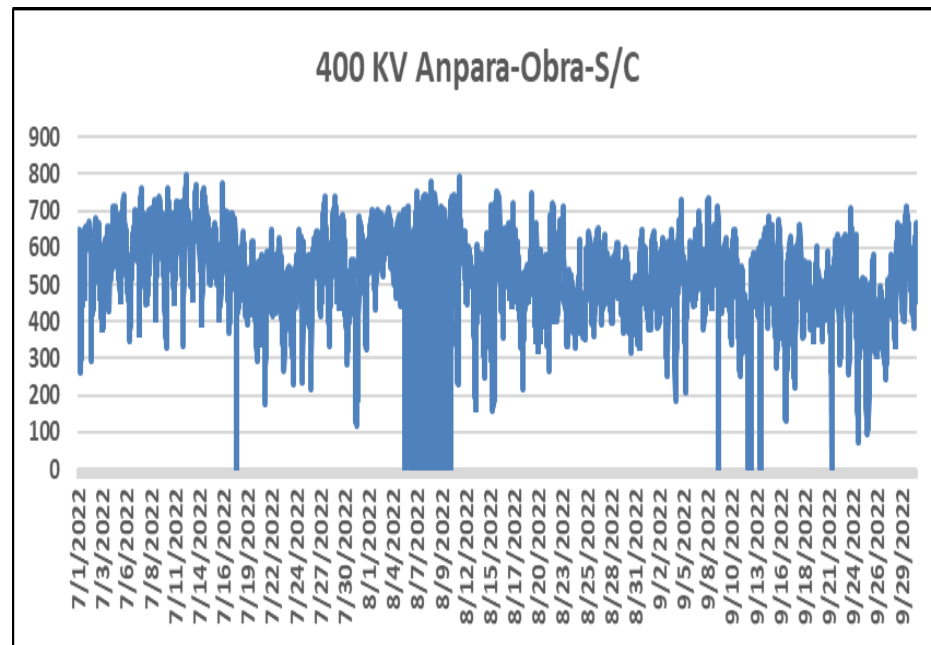


400/220kV Kurukshetra ICT loading for Q2 2022-23



## Constraint in HVDC Vindhyachal flexible operation

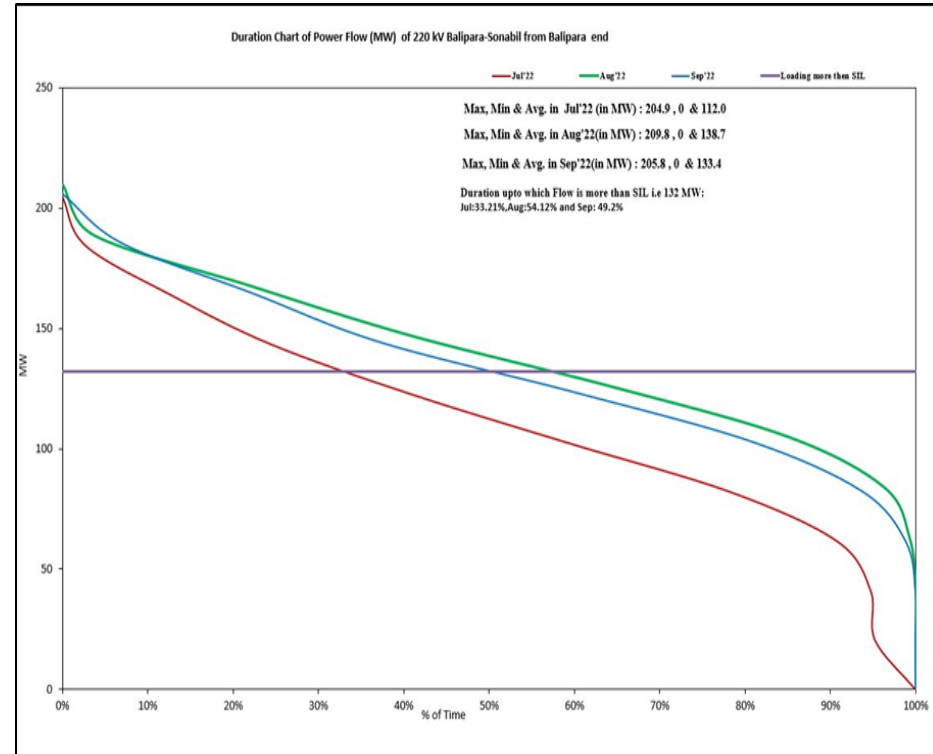
- At the time of high demand in UP and during high import of NR, 765kV Vindhyachal(WR)-Varanasi(NR) D/C line gets heavily loaded
- HVDC Vindhyachal is being operated towards WR due to constraints on NR side( High loading of 400 kV Anpara-Obra line). This is being done even under heavy import of NR i.e. greater than 20500 MW.
- Due to outage of 765kV Anpara D-Unnao line, constraints were observed at 400kV Anpara-Obra line.
- HVDC Vindhyachal has 10 % sensitivity (if operated towards WR-NR) on loading of 400 kV Anpara-Obra line
- **It is important that revival of 765 kV Anpara D - Unnao line is expedited which is under outage since 8th February 2022.**



*High Loading of 400 kV Anpara-Obra in Q2*

## Constraint in HVDC BNC-Agra

- The power order on HVDC in NR-NER direction is restricted due to overloading of 220 kV Balipara-Sonabil
- High loading in 220 kV Balipara- Sonabil S/C has led to opening of 220 kV Samaguri- Sonabil D/C lines even before peak hours.
- It is observed that there is 5% sensitivity of HVDC BNC-Agra power order on the loading of 220 kV Balipara – Sonabil. Hence, for every 100 MW increase in power order of HVDC BNC-Agra in reverse direction (i.e. from NR to NER), loading on 220 kV Balipara-Sonabil gets increased by about 5 MW.
- **Early commissioning of 2nd circuit of 220 kV Balipara - Sonabil will enhance the utilization of ER-NER corridor. As per 194th OCCM, the construction of the line is completed and OEM is awaited for SAS integration**



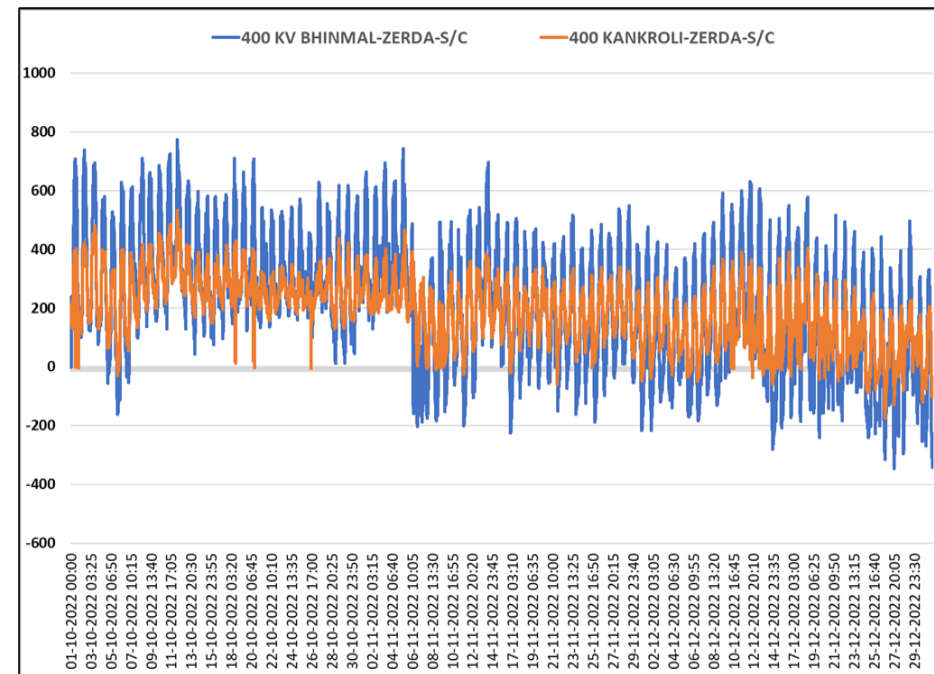
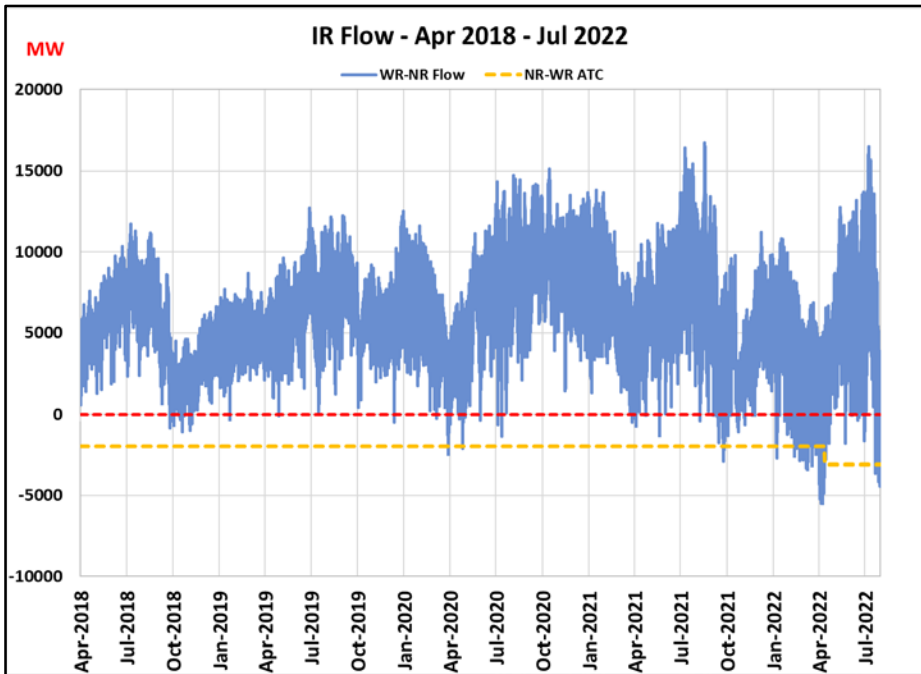
*Duration Chart of 220 kV Balipara-Sonabil lines*

# Constraints in Inter-regional Corridors

# Constraints in Inter-regional Corridors

S.N o.	Corridor	TTC (MW)	ATC (MW)	Constraints Observed in Operation
1	NR Import	25800	24400	<ul style="list-style-type: none"> <li>• Constraint in HVDC Vindhyachal flexible operation due to overloading of Anpara – Obra 400 kV line,</li> <li>• Non-compliance of 400/220 kV, 500 MVA ICTs at Kurukshetra when HVDC Champa - Kurukshetra power order is above 5000 MW</li> <li>• Constraint in increasing the HVDC Mundra-Mahendergarh link, due to the loading of 400 kV SSP-ASOJ</li> </ul>
2	NR Export	4000	3500	<ul style="list-style-type: none"> <li>• N-1 non-compliance observed in Rajasthan to Gujarat corridor during high solar hours of 400 kV Kankroli-Zerda &amp; 400 kV Bhinmal-Zerda</li> </ul>
3	SR Import	17300	16300	<ul style="list-style-type: none"> <li>• N-1 non-compliance of 2x1500 MVA, 765/400 kV ICTs at Nizamabad</li> </ul>
4	SR Export	6350	5700	<ul style="list-style-type: none"> <li>• N-1 non-compliance 400 kV Kolhapur-Kolhapur D/C</li> </ul>

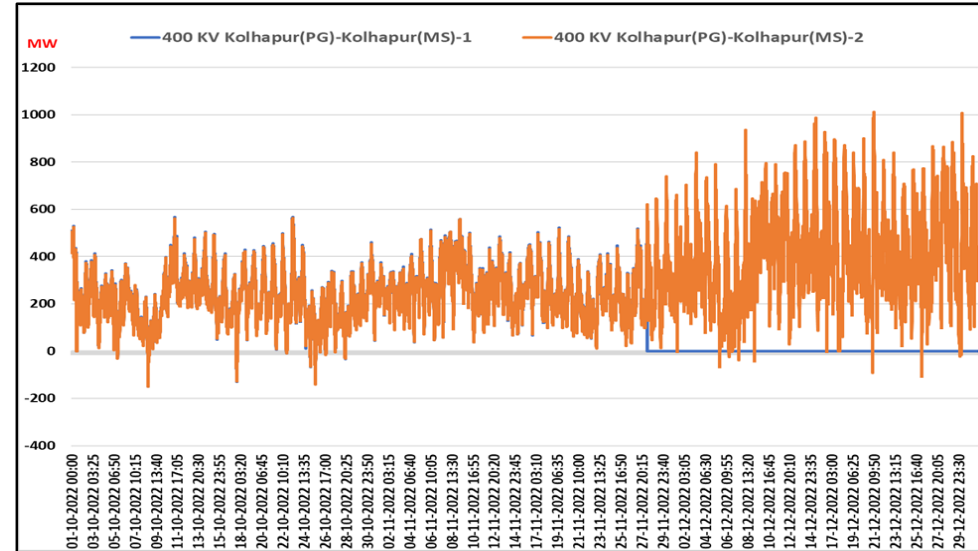
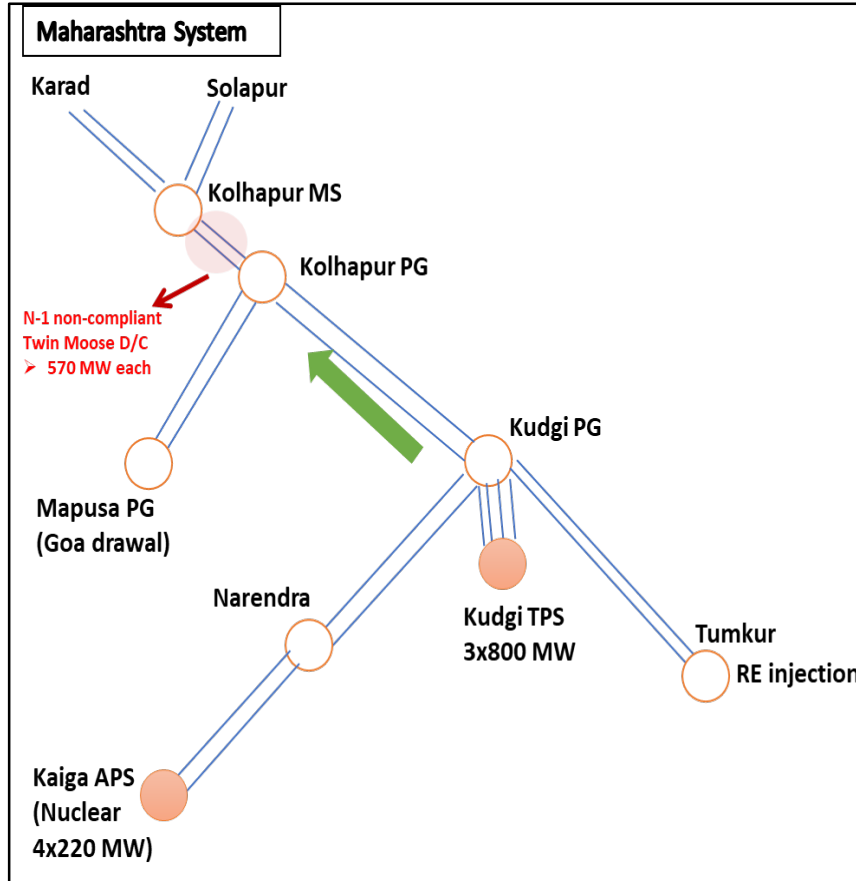
## NR to WR constraint



- N-1 non-compliance observed in Rajasthan to Gujarat corridor during high solar hours
- Bypassing of 400 KV Kankroli-Bhinmal-Zerda lines at Bhinmal to form 400 KV Kankroli-Zerda (direct line) and reconductoring of 400 KV Jodhpur (Surpura)(RVPN)-Kankroli-S/C line with twin HTLS conductor approved under 5th Consultation Meeting for Evolving Transmission Schemes in NR are to be expedited.
- The critical loading of the 400 kv Banaskantha – Veloda D/C line is relieved to some extent after the commissioning of LILO of 400 kv Zerda – Ranchodpura at Banaskantha.

## Congested network during high SR Export Period

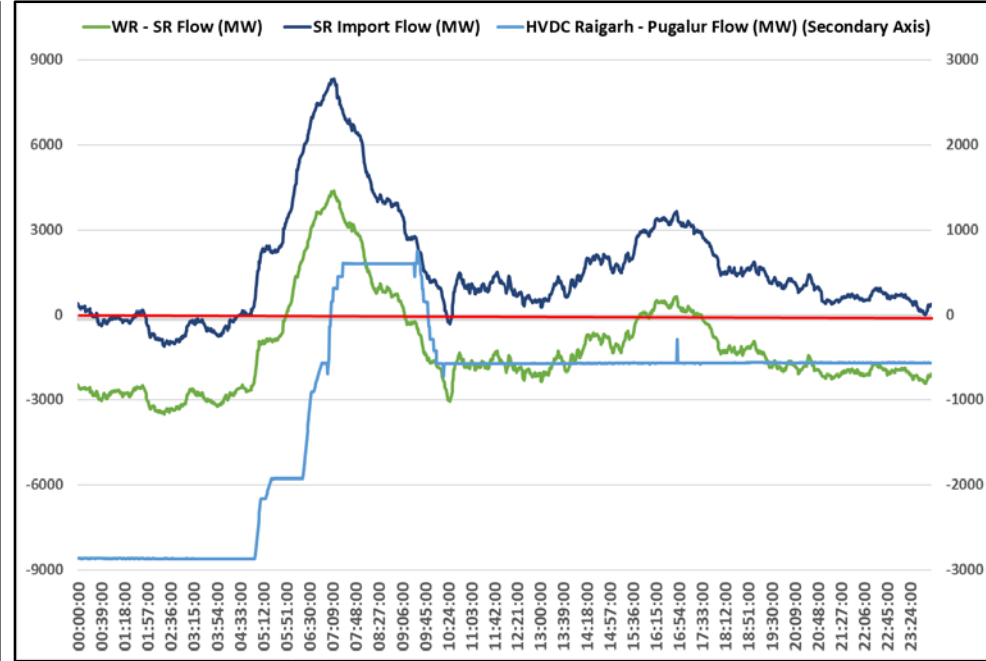
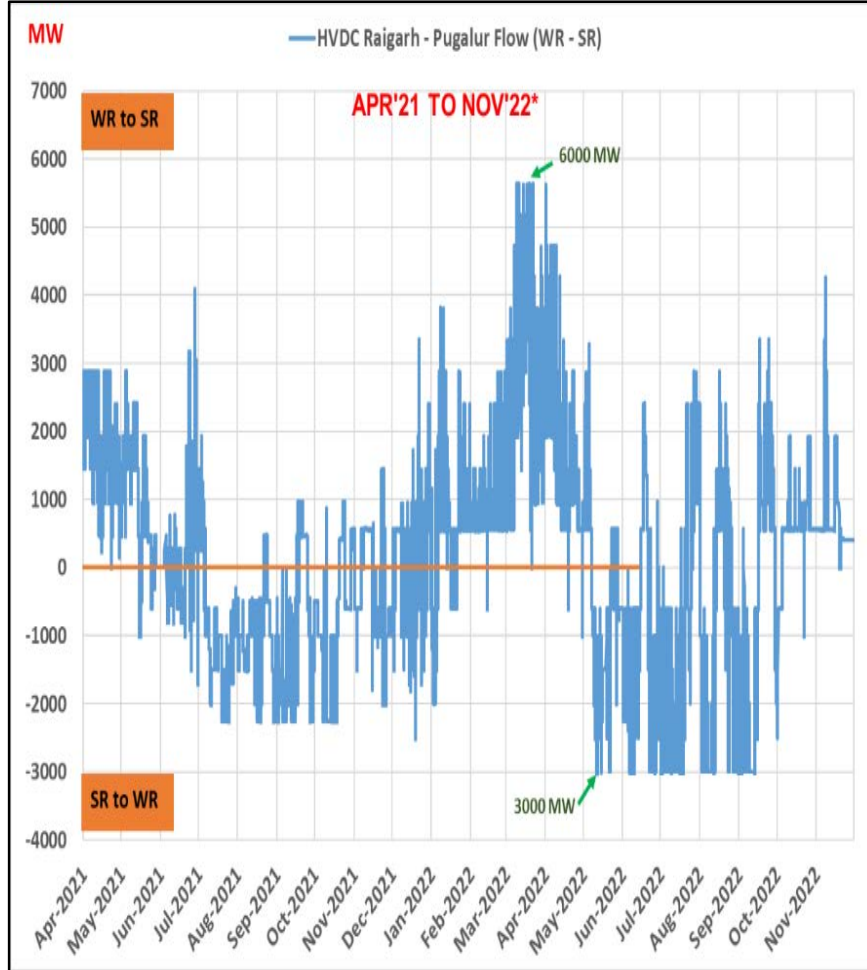
## Kolhapur-Kolhapur Oct – Dec 2022



- With Tripping of 400 kV Kolhapur-Kolhapur D/C lines
  - Critical loading on Pune GIS-PunePG-Lonikhand-Karad-Kolhapur
  - Reduced reliability to Goa and South/West Maharashtra system
- Reconductoring of 400 kV Kolhapur (PG) – Kolhapur (MS) D/C (Moose conductor) with HTLS conductor now going on.
- 400KV-Kolhapur-MS-Kolhapur GIS-1 is currently under long shutdown for reconductoring work.

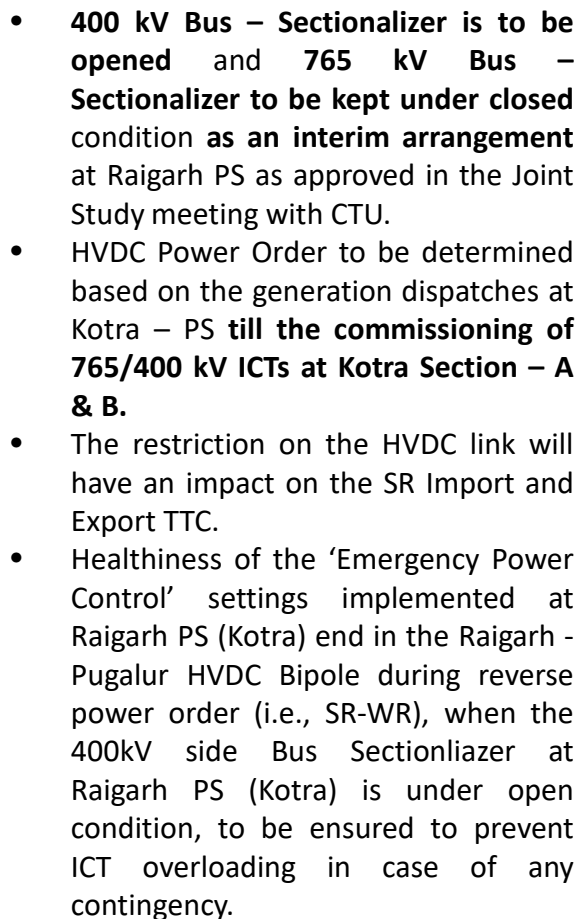
## HVDC Raigarh – Pugalur Flow 2021-22 & 2022 - 23

## HVDC Raigarh – Pugalur Flow for 13<sup>th</sup> August 2022



- Requirement of bi-directional operation of HVDC Raigarh – Pugalur due to changing flow patterns in SR – WR corridor even on a single day.
- However, there is resistance from the site to avoid frequent changes in the direction of the operation of HVDC citing concern over the adverse effect on the life of the equipment and even premature failures.





## Transmission Planning

# Commissioning of Elements Eagerly Awaited

- 765/400 kV ICTs at Kotra S/S (approved in 8th NCT meeting)

- Section – A (1 No of ICT)
- Section – B (2 No of ICTs)

**(Till the commissioning of ICTs, maximum flow on HVDC will depend upon the generation that is being pooled at Raigarh PS in both the sections)**

- 765/400 kV ICT-3 at Nizamabad **(SR Import ATC Constraint)**
- 765 kV Warora-Warangal D/C **(Will Enhance SR Corridor Transfer Capability) – ROW Issues (SCOD: Dec'2019)**
- 765 kV Hyderabad-Kurnool D/C **(Will Enhance SR Corridor Transfer Capability) – ROW Issues (SCOD: Feb'2020)**
- Bypassing of 400 KV Kankroli – Bhinmal - Zerda lines at Bhinmal to form **400 KV Kankroli - Zerda (direct line)** and **reconductoring of 400 KV Jodhpur (Surpura) (RVPN)-Kankroli-S/C** line with twin HTLS conductor approved under 5th CMETS-NR.

# High Voltage & Low Voltage Nodes in NR

## HV Nodes:

Suratgarh, Shree Cement,  
Rajwest, Barmer, Akal,  
Jodhpur, Jaipur South

Mahendragarh, MGTPS  
Jhajjar,

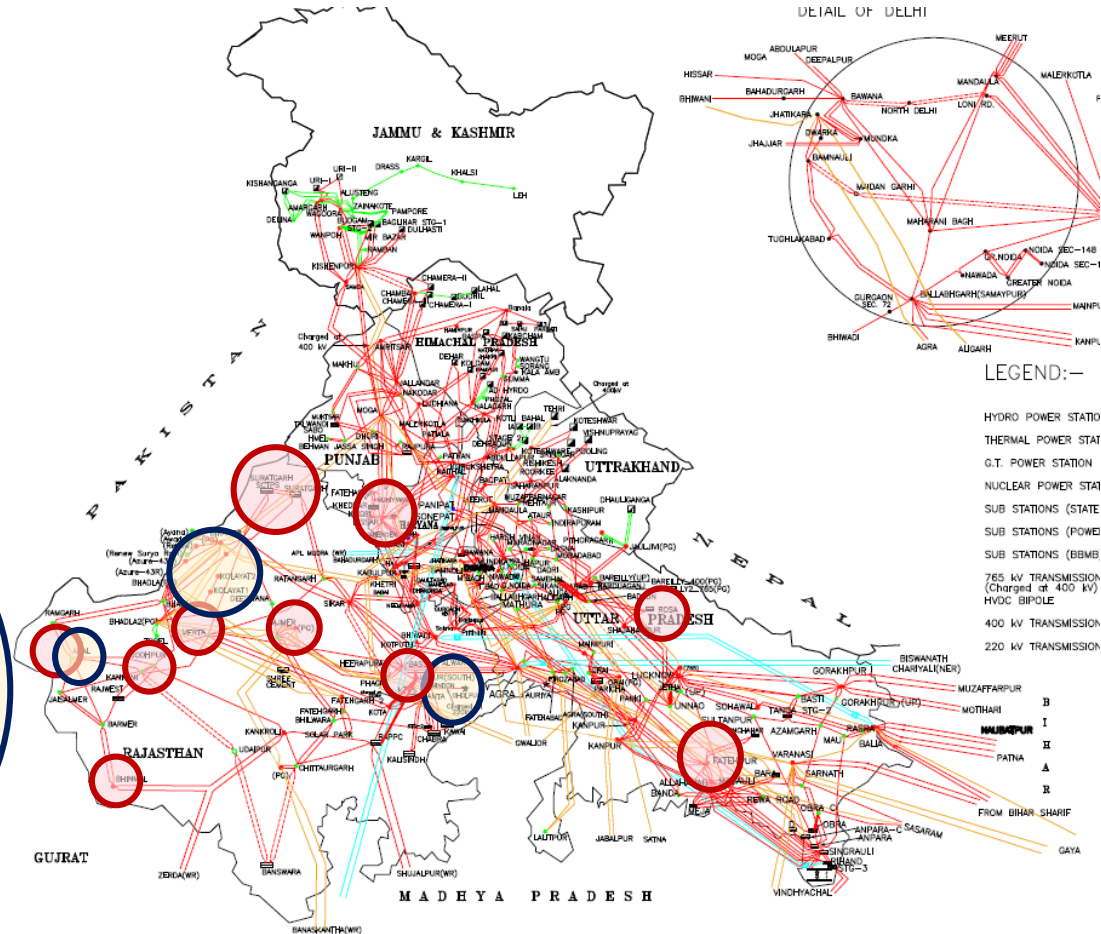
Fatehpur, Rosa,

## LV Nodes:

Hindaun, Alwar (Establishing Additional  
400 kV Connectivity with Alwar from  
Bhiwadi/Bassi/Phagi to be expedited)

Bhadla-I (PG), Fatehgarh-II (PG)  
(STATCOM Commissioning to be  
expedited, reactive support from RE  
Plants to be mandated)

Akal (Raj), Bhadla(RJ), Ramgarh, Akal,  
Kankani (Rajasthan SLDC to direct RE  
Generators for Reactive Support)



# High Voltage & Low Voltage Nodes in WR

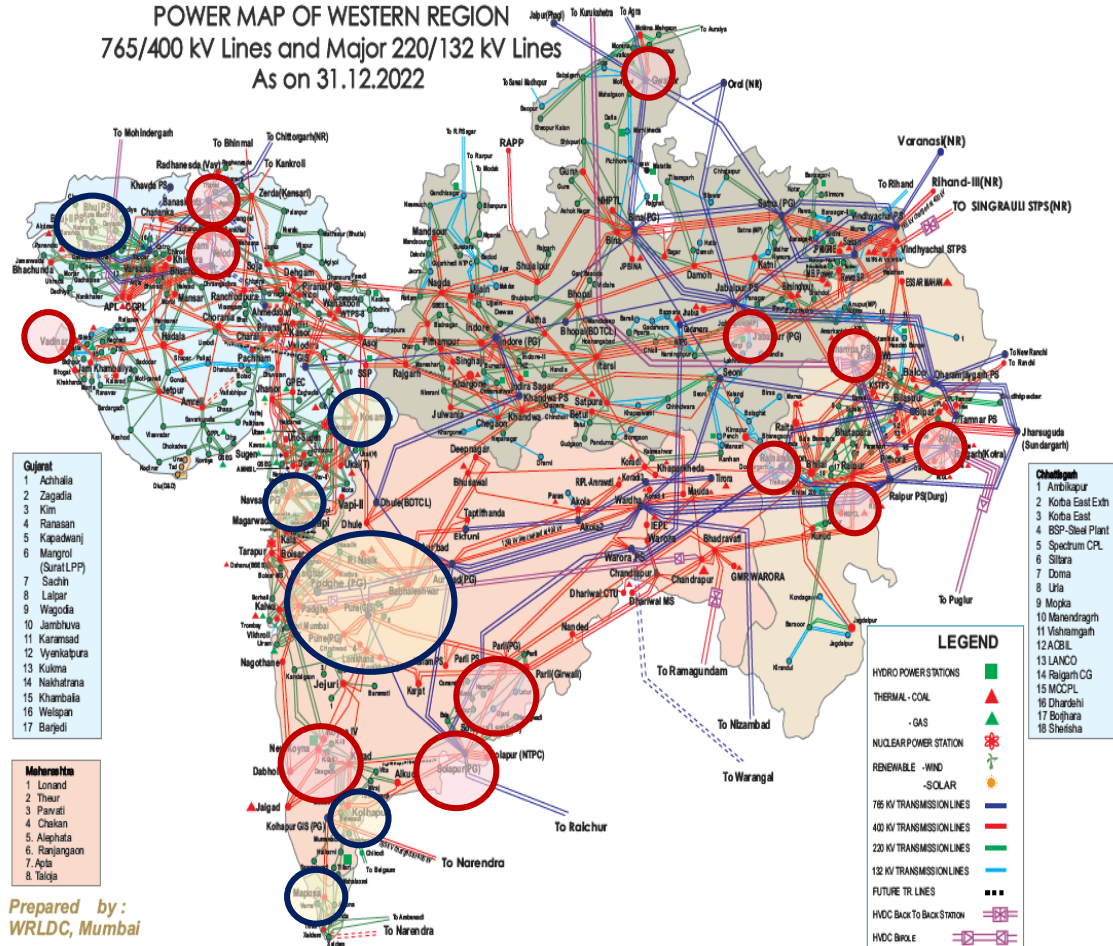
**HV Nodes:** New Parli, Padghe GIS, Solapur-PG, Wardha-PG, New Koyna,

Banaskantha, Sami, Essar Vadinar,

Jabalpur-PS, Gwalior-PG, 765kV Champa-PS Section-A, 765 kV Rajnandgaon, 765 kV Raigarh (Kotra), **400kV Korba West (Reactor Planned and to be expedited)**, 400kV NSPCL

**LV Nodes:** Padghe, Kharghar Kalwa, (Padghe (GIS)-Navi Mumbai-Vikhroli line to be expedited) Pune PG & Chakan, Jejuri, Lonikhand, Lonikhand-II, Solapur (Capacitor Bank at LV by MSETCL) Bableshtar, Kolhapur GIS, Solapur(MH), Alkud, Boisar, Mapusa, Bhuj-PS, Hazira, Vapi, Vav, Kosamba, Janor, Magarwada

POWER MAP OF WESTERN REGION  
765/400 kV Lines and Major 220/132 kV Lines  
As on 31.12.2022



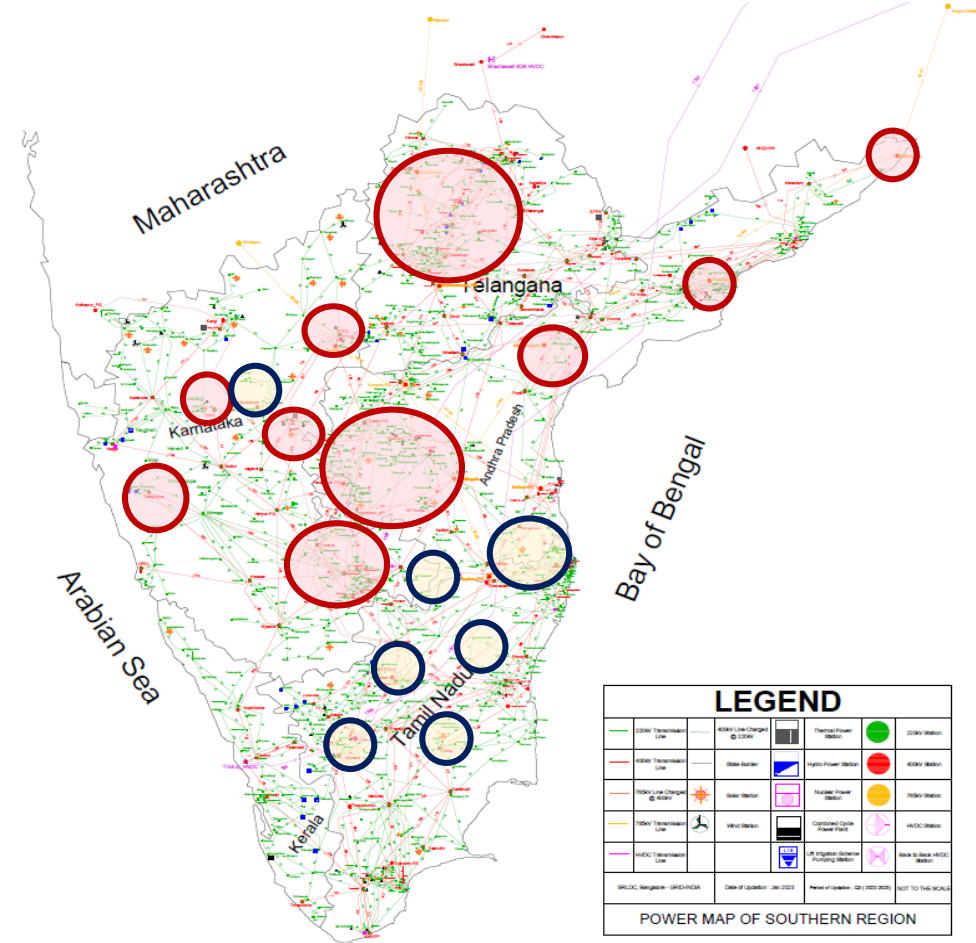
Prepared by:  
WRLDC, Mumbai



# High Voltage & Low Voltage Nodes in SR

**HV Nodes:** 400 kV Chilakaluripeta, 400 kV Cuddapah-Pg, 400 kV Ghani, 400 kV Gooty, 400 kV Hindupur, 400 kV Hinduja, 400 kV Jamalamadugu, 400 kV Kalikiri, 400 kV Kurnool-Ap, 400 kV Kurnool-Pg, 400 kV KV Kota, 400 kV Np Kunta, 400 kV Podili, 400 kV RyTPS Stg V, 400 kV Sattenapalli, 400 kV Tallapalli, 400 kV Talarichervu, 400 kV Uravakonda, 400 kV Vemagiri-Pg, 400 kV VTS\_Ag, 765 kV Chilakaluripeta, 765 kV Cuddapah-Pg, 765 kV Vemagiri-Pg, 400 kV Asupaka, 400 kV Chandulapur, 400 kV Dichipalli, 400 kV Gajwel, 400 kV Dindi, 400 kV Jangoan, 400 kV Julurpadu, 400 kV Kakatiya Tps, 400 kV Kethireddypalli, 400 kV Khammam

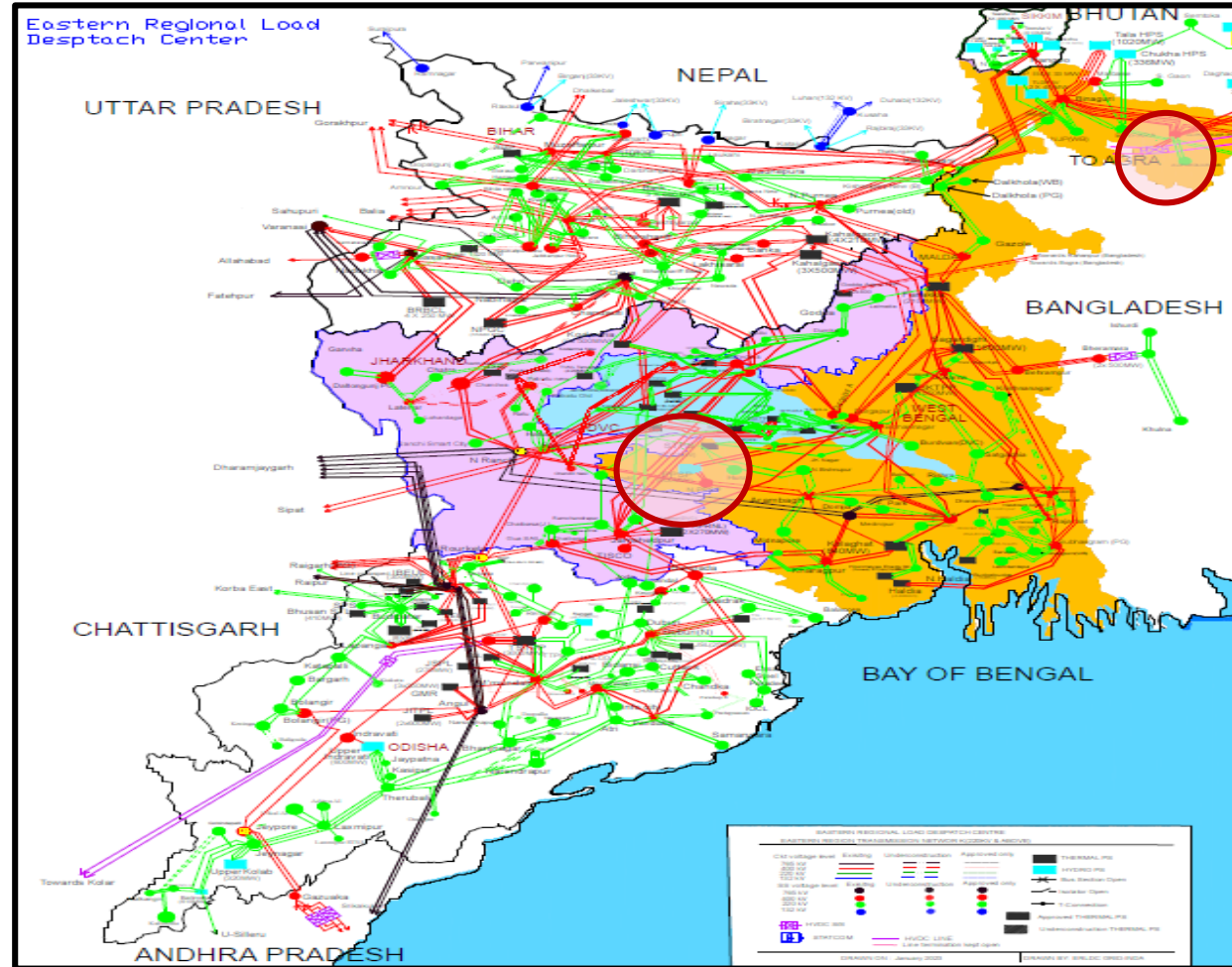
**LV Nodes:** Doni, Hoody, Hosur, Kalivendpattu, Kudgi, Manali, Munirabad, Puducherry, Salem, SV Chatram, Sholinganallur, Trichur, Trichy, Udmalpet



# High Voltage & Low Voltage Nodes in ER

## HV Nodes:

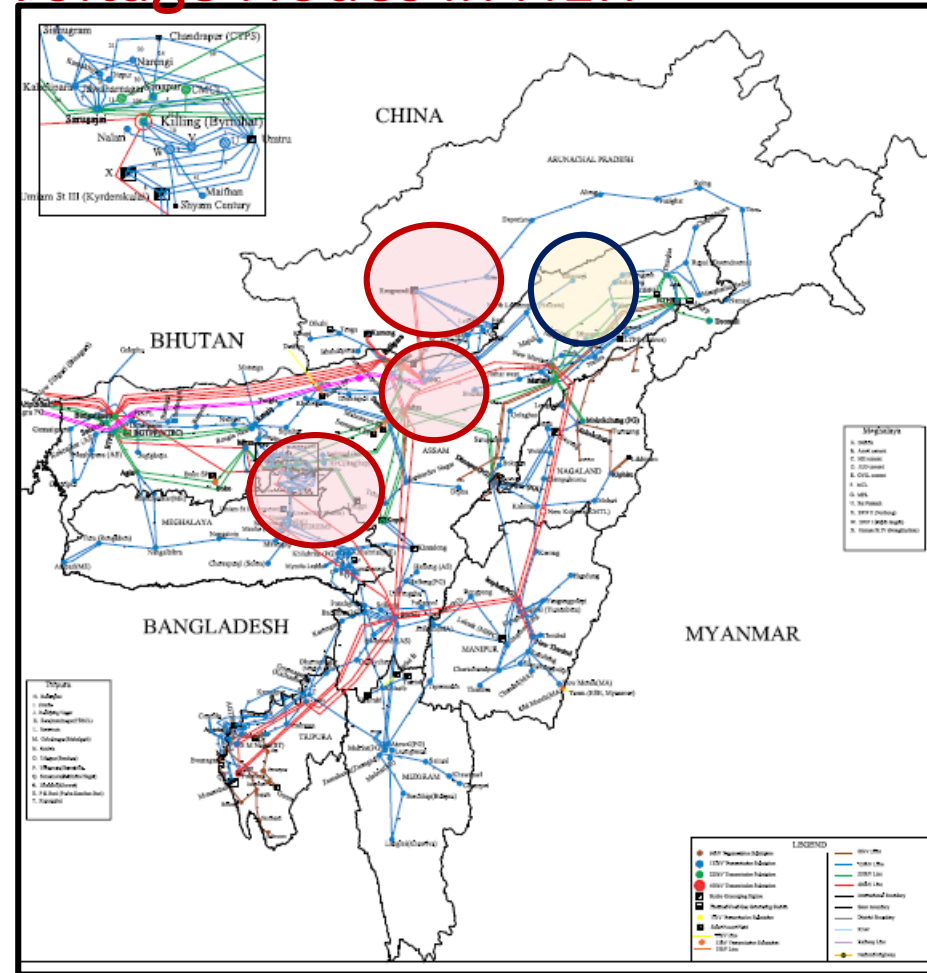
- **New Purulia PSP:**  
2x 125 MVAR BR  
commissioning needs to be expedited
- **400kV Alipurduar:**



# High Voltage & Low Voltage Nodes in NER

**HV Nodes:** 400 kV Ranganadi, Balipara, Misa, Biswanath Chariali, Byrnihat. (Installation of 420 kV, 80 MVAR B/R by NEEPCO at Ranganadi Bus, 80 MVAR bus Reactor at Byrnihat to be expedited)

**LV Nodes :** 132 KV Dhemaji KV (Biswanath Chariali – Itanagar D/C approved by Joint Standing Committee of ER and NER)

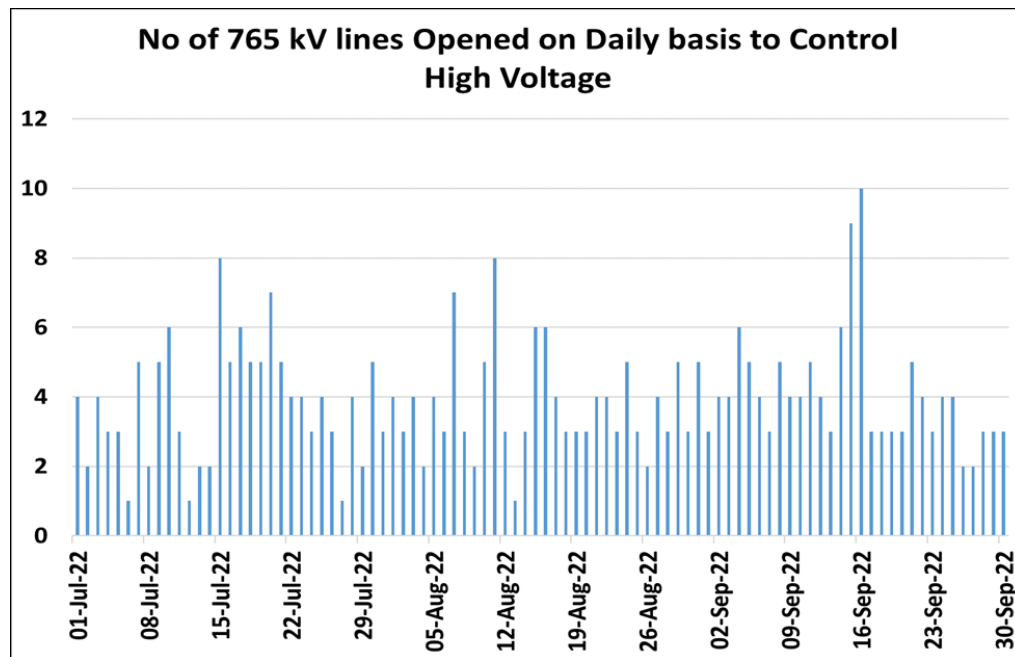




# 765 Lines Opened on High Voltage – Q2 FY 2022-23

SL. No.	Line Name	No. of times opened
1	765 kV Bikaner-Moga (PG) -2	45
2	765 kV Bikaner-Moga (PG) -1	44
3	765 kV Ajmer-Bhadla_2 (PG) -2	38
4	765 kV Ajmer-Bhadla_2 (PG) -1	36
5	765 kV Ajmer-Chittorgarh (PG) -1	21
6	765 kV Ajmer-Chittorgarh (PG) -2	19
7	765KV-NIZAMABAD-MAHESHWARAM_PG-2	18
8	765 kV Phagi(RS)-bhiwani(PG) (PG) -2	11
9	765KV-NIZAMABAD-MAHESHWARAM_PG-1	10
10	765 kV Solapur-Parli -I	8
11	765 kV Solapur-Parli -II	8
12	765 kV Orai-Aligarh (PG) -2	5
13	765 kV Phagi(RS)-Bhiwani(PG) (PG) -1	5
14	765 kV Wardha-Aurangabad -II	5
15	765 kV Agra-Fatehpur (PG) -2	4
16	765 kV Agra-Fatehpur (PG) -1	4
17	765 kV Orai-Aligarh (PG) -1	4
18	765 kV Raipur-Jharsuguda-I	4
19	765 kV Moga-Meerut (PG) -1	3
20	765KV-JHARSUGUDA-RAIPUR PS (DURG)-2	3
21	765KV-CUDDAPAH-THIRUVALAM-2	3

**Total = 298**



No. of time 400 & 765 kV Lines opened

Details available at: [https://pasoco.in/download/nldc-operational-feedback\\_july\\_2022/?wpdmdl=46648](https://pasoco.in/download/nldc-operational-feedback_july_2022/?wpdmdl=46648)

# Thank you !!

# Major Elements Commissioned in Q2 & Q3 FY 2022-23

# Major Elements Commissioned in Q2 & Q3 FY 2022-23

S. No.	Agency/Owner	Element	First time Charging / Synchronization Date /COD
1	UPPTCL	500 MVA, 400/220/33 kV ICT – 3 at Aligarh(UP)	18.07.2022
2	NTPC_KOLAYAT SL	150 MVA, 400/33 kV ICT – 1 at Kolayat Solar NTPC_1 (NTPC_KOLAYAT SL)	23.07.2022
3	NTPC_KOLAYAT SL	150 MVA, 400/33 kV ICT – 2 at Kolayat Solar NTPC_1 (NTPC_KOLAYAT SL)	24.07.2022
4	PBTL	500 MVA, 400/220 kV ICT – 4 at Bhuj - II	20.07.2022
5	MPPTCL	315 MVA, 400/220 kV ICT – 2 at Indore	19.07.2022
6	NTPC_KOLAYAT SL	400 kV Bhadla_2 (PG)-Kolayat Solar NTPC_1 (NTPC_KOLAYAT SL)-1	23.07.2022
7	MPPTCL	500 MVA, 400/220 kV ICT – 1 at Bhopal MP	30.08.2022
8	GETCO	315 MVA, 400/220 kV ICT – 2 at Ranchodpura	23.08.2022
9	PMJTL	400 kV Subhashgram-New Jeerat Transmission Line-1	22.08.2022
10	PMJTL	400 kV Subhashgram-New Jeerat Transmission Line-2	24.08.2022
11	POWERGRID	400/220/33 kV, 500 MVA, 6th ICT at Bhadla-II	01.09.2022

# Major Elements Commissioned in Q2 & Q3 FY 2022-23

S. No.	Agency/Owner	Element	First time Charging / Synchronization Date /COD
12	MPPTCL	400/220 kV, 500 MVA, ICT – 1 & 2 at Guna (PBGTL) S/S MP	03.09.22 & 16.09.22
13	POWERGRID	400/220/33 kV, 500 MVA, 9th ICT at Fatehgarh-II	30.09.2022
14	MPPTCL	400 kV Bina- Guna(PBGTL) 1 & 2	29.09.2022
15	NTPC Kolayat	400kV Kolayat Solar NTPC_1 Kolayat Solar NTPC_2	09.09.2022
16	WRSS XX1(A) TL	400 kV Bhachau-Lakadia-1 {LILO of Bhachau - EPGL 400kV D/c (triple) line IN at Lakadia PS Line In CKT-1}	21.09.2022
17	WRSS XX1(A) TL	400 kV Bhachau-Lakadia-2 {LILO of Bhachau - EPGL 400kV D/c (triple) line IN at Lakadia PS Line In CKT-2}	21.09.2022
18	WRSS XX1(A) TL	400 kV Lakadia-Jam Khambaliya-1 {LILO of Bhachau - EPGL 400kV D/c (triple) line OUT from Lakadia PS Line In CKT-1}	28.09.2022
19	POWERGRID	1500 MVA, 765/400/33 kV ICT – 3 at Bhadla_2 (PG)	02.10.2022
20	WRSS XX1(A) TL	1500 MVA, 765/400 kV ICT – 1 at Lakadia	07.10.2022
21	WRSS XX1(A) TL	1500 MVA, 765/400 kV ICT – 2 at Lakadia	06.10.2022
22	POWERGRID	400/220 kV, 500 MVA, ICT – 3 at Hiriyur	29.10.2022

# Major Elements Commissioned in Q2 & Q3 FY 2022-23

S. No.	Agency/Owner	Element	First time Charging / Synchronization Date /COD
23	LBTL	765kV Lakadia PS-Banaskantha PS line-1	13.10.2022
24	LBTL	765kV Lakadia PS-Banaskantha PS line-2	13.10.2022
25	NKTL	400 kV North Karanpura(NTPC)-Chandwa(PG) D/C Line-1	15.10.2022
26	NKTL	400 kV North Karanpura(NTPC)-Chandwa(PG) D/C Line-2	15.10.2022
27	PBTL	1500 MVA, 765/400 kV ICT – 1 at Bhuj - II	12.11.2022
28	UPPTCL	400kV Varanasi(PG)-Jaunpur (UP)-2 (Charged on no load)	18.11.2022
29	POWERGRID	400 kV Jauljivi (PG)-Bareilly_2(PG)-2 {1.6KM at Jauljivi(PG) AND 7.866KM at Bareilly_2(PG) end}	18.11.2022
30	MSETCL	400KV Karad-Jejuri-1 (LILO of 400KV Karad-Lonikhand Line)	03.11.2022
31	MSETCL	400KV Lonikhand-Jejuri-2 (LILO of 400KV Karad-Lonikhand Line)	04.11.2022

# Transmission Line and ICT Constraints

S. No	Region	Element	Description of the constraints
1	Northern Region	400kV Bhinmal(PG)-Zerda(PG) and Kankroli(PG)-Zerda(PG)	During high wind generation in Rajasthan and high demand in WR (Gujrat), line loading of 400kV Bhinmal-Zerda is reaching 600-800MW and line loading of 400kV Kankroli-Zerda is reaching 350-450MW. <b>(North-West Inter-regional system strengthening scheme approved during 5th CMETS - NR meeting needs to be expedited)</b>
2		400kV Barmer(RS)-Bhinmal(PG) ckt-1 & ckt-2	During high wind generation at Rajasthan, wind power gets pooled at 400kV Barmer from 400kV Akal (RS) and 400kV Bhensra(RS) and gets evacuated through 400kV Barmer(RS)-Bhinmal(PG) ckt-1 & ckt-2. <b>(upgrading of 400kV Jodhpur (kankani) to 765kV needs to be expedite by RVPN)</b>
3		3x500 MVA, 400/220 kV ICTs at Bhadla (Raj) and Fatehgarh-II	During high solar generation, loading of ICTs are N-1 non-compliant for considerable duration. New ICTs need to be expedited.
4		2X315 MVA, 400/220kV ICTs at Deepalpur, Rajpura, Nakodar, Kurukshetra, and Chhittorgarh (Raj), Merta, Bikaner (Raj), Ajmer	Augmentation/new ICT needs to be planned/expedited at these locations.



# Transmission Line and ICT Constraints

S. No.	Region	Element	Description of the constraints
1	Western Region	400 kV Kudus-Kala D/C	<b>Remarks:</b> Commissioning of 400 kV Padghe (GIS) –Kharghar and Padghe (GIS)-Vikhroli line would relieve loading of Kudus-Kala D/C.
2		400 kV Padghe- Kalwa D/C	<b>Remarks:</b> Commissioning of 400kV Vikhroli S/s and Padghe (PG)-Kharghar, Padghe (PG)-Navi Mumbai-Vikhroli and Kharghar-Vikhroli would give additional infeed to Mumbai and relieve loading of Padghe-Kalwa D/C. SCOD: Sep-23 Revised schedule-June'24
3		400 kV Lonikhand - Jejuri S/C & Low Voltages at Jejuri	<b>Remarks:</b> 400kV Pune GIS - Lonikand-II & Pune GIS - Jejuri S/c lines along with reconductoring of Lonikand-I – Jejuri line section. Expected by Jun'25
4		400 kV Chandrapur-Chandrapur (II) D/C	Reconductoring with HTLS – Expected by Apr'23 as informed by MSETCL
5		400kV Parli(PG) - Parli(MS) D/C	Bypassing of Parli(PG) – Parli(M) 400kV D/C line and Parli(PG) – Parli(New) 400kV D/C (quad) line at Parli(PG) S/s at outskirts of the S/s so as to form Parli(M) – Parli(New) 400kV D/C direct line ( <b>Completed in Dec'22</b> ) and Reconductoring of Parli(PG) – Parli(M) 400kV D/C line with twin HTLS conductor was approved in 08th CMETS-WR. Expected: Mar'23
6		400 kV Tarapur - Boisar D/c line	When full generation at Tarapur, High HVDC Chandrapur-Padghe flow, Less generation in Mumbai.
7		400 kV Kolhapur (MS) – Kolhapur (PG) D/C	Lines are N-1 non-compliant during high generation at Kudgi TPS as well during high in SR. Reconductoring of the lines is under implementation.

# Transmission Line and ICT Constraints

S. No	Region	Element	Description of the constraints
8	Western Region	400kV Pune(PG)-Kharghar & 400kV Pune(PG)-Kalwa S/C line	During less internal generation in Mumbai, Tarapur NPS, less flow or tripping of HVDC Chandrapur-Padghe bipole link and during morning peak demand of Mumbai, high loading is observed. Commissioning of 400/220kV Vikhroli & Navi Mumbai substations to be expedited.
9		2x315MVA+ 1x500MVA 400/220 kV Dhule MSETCL ICTs	Augmentation work of 400/220KV ICT-II from 315 MVA to 500MVA under progress
10		400 kV Lara –Raigarh D/C	Lines are N-1 non-compliant in case of reverse power flow on HVDC Raigarh – Pugalur with high generation in Raigarh complex and low generation at Lara TPS. <b>1st WRPC(TP):</b> Reconductoring with quad moose ampacity conductor is agreed with connectivity of Lara Stage-II.
11		400 kV SSP-Asoj S/c line	During high generation at SSP. Can be relived if SSP-Asoj and Asoj –Chorania lines are bypassed at Asoj and made SSP- Chorania.
12		400 kV Pirana (PG)-Pirana DC line	Most of the time line is highly loaded.
13		400 kV Soja-Kansari	During high wind generation at Bhuj(PS) & Solar generation in Rajasthan. Less internal generation in Gujarat
14		765kV Sasan-Vindhyachal PS D/c line	Loop flow from 400kV Vindhyachal PS-Sasan D/c to Sasan & via 765kV it flows back to Vindhyachal PS (After commissioning of 765kV Vindhyachal PS - Varanasi D/c lines)
15		2x1500 MVA 765/400kV Ektuni (MSETCL) ICTs, 2x1500 MVA Pune GIS (Shikarapur) ICTs and 1x1500 MVA Tirora ICT	Augmentation/new ICT needs to be planned/expedited at these locations. (ICT-III at Ektuni by Jun'24. Load Trimming Scheme with total 1850MW loading on Ektuni 765/400kV ICTs by Mar'23 by MSETCL)
16		400/220 kV ICTs at Akola, Alkud, Bableshtar, Lonikhand, Wardha, Sugan, Wanakbori, Itarsi, Jabalpur, Moprena, satna, Bhatapara, Korba West, Kurud, Raigarh (PG), Magarwada.	Augmentation/ new ICT needs to be planned/expedited at these locations.

# Transmission Line and ICT Constraints

S. No	Region	Element	Description of the constraints
1	Southern Region	Constraints in Nagjheri PH evacuation	KPTCL to expedite reconductoring of emanating 220 kV lines
2		Tamilnadu 230 kV System	Several 230 kV lines in TN intra-state network are heavily loaded. (Details available at <a href="https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526">https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526</a> )
3		Downstream network of Mysore 400/220 kV SS	220 kV outlets from Mysore are heavily loaded particularly during peak demand scenario of Karnataka.
4		220 kV Bangalore Metro Network	Most of the 220 kV network in Bengaluru is radialised during peak season to prevent overloading of lines. The radialisation of lines decreases the reliability of supply & thus results in Low Voltage situation during peak period and High Voltage during Off-Peak period of the day
5		Andhra Pradesh 220 kV Network	Several 220 kV lines in AP intra-state network are heavily loaded. (Details available at <a href="https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526">https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526</a> )
6		Downstream network of UPCL 400/220kV SS	220 kV UPCL - Kemar D/C is heavily loaded during UPCL full generation and Peak demand scenario of Karnataka
7		765/400 kV Nizamabad ICTs, 400/220 kV ICTs at Kolar, Kaiga, Mysore, Hoody Cochin, Narendra, Neyveli II TPS, Hassan, Ramagundam, Somanhalli, Tiruvallam, UPCL, Allundur SS, Jindal SS, Cochin	Most of the constraint observed during high demand period of SR. Some even observed for whole year. (Details available at <a href="https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526">https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526</a> )
8		Kerala 220 kV Network	During Non-solar hours, 220 kV Areakode - Kanhirode & 220 kV Areacode-Orkkattery are parallel and tripping of one line overloads the other one
9		Telangana 220kV Network	Several 220 kV lines in Telangana intra-state network are heavily loaded. (Details available at <a href="https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526">https://posoco.in/download/nldc-operational-feedback_oct_2022/?wpdmdl=48526</a> )

# Transmission Line and ICT Constraints

S. No	Region	Element	Description of the constraints
1	Eastern Region	400/220 kV 2 X 315 MVA ICTs at Bidhannagar, New Dubri, DSTPS, Subhasgram	Augmentation/new ICT needs to be planned/expedited at these locations.
2		400/220 kV Ranchi 2 X 315 MVA ICTs	Additional ICT at 400/220 kV Ranchi has been agreed in 3 <sup>rd</sup> ERPCTP meeting. To be expedited.
3		220 kV DSTPS-Waria D/C	During less Generation at 220 kV Mejia and Waria. 3 <sup>rd</sup> ICT at Bidhannagar to be expedited.
4		220 kV Maithon Dumka D/C	High loading Jharkhand area and outage of 220 kV Farakka Lalmatia S/C. Early restoration of 220 kV Farakka - Lalmatia S/C is required for decongesting 220 kV Maithon Dumka D/C & 400/220 kV S/S at Dumka and 400 kV Dumka Dhanbad D/C transmission lines (5 <sup>th</sup> CMETS-ER)
5		2 X 315 MVA Gokarna ICTs and 315 MVA ICT at Sagardighi	Constraint observed during peak demand of West Bengal, Low generation at Bakreswar and High generation at Sagardighi. ICTs to be planned
1	North-Eastern Region	220/132 kV, 2 x100 MVA ICT at Rangia	During lean/ Normal Hydro/ Heavy demand in Rangia areas of Assam. Affecting reliability of Rangia evacuation. Upgradation/Addition is required
		220/132 kV, 2 x160 MVA ICT at BTPS(AS)	During Lean/ Normal Hydro/ Heavy demand in BTPS(AS) areas of Assam. Upgradation/Addition is required
2		220 kV BTPS - Salakati I & II lines	Upgradation of the 220 kV BTPS-Salakati I & II lines with HTLS conductor to be expedited (2 <sup>nd</sup> Meeting of NERSCT). 7 <sup>th</sup> NER SCM: 400/220 kV Rangia S/S may be established through LILO of both circuits of 400 kV Balipara- Bongaigaon D/C.
3		220 kV Misa- Samaguri DC	Lean/ Normal Hydro / Heavy demand in Capital areas of Assam. Early commissioning of 2 <sup>nd</sup> circuit of 220 kV Balipara – Sonabil need to expedited & reconducting of 220 kV Misa- Samaguri DC to be planned.

# Important Grid Elements under Construction (NR)

S. No.	Name of the transmission element (Line / ICT)	Implementing agency	Remarks
1	765kV Bara -Mainpuri ckt-2 and 2nd 765/400 kV ICT at Mainpuri	UPPTCL	Early commissioning of 765kV Bara-Mainpuri ckt-2 and 2 <sup>nd</sup> 765/400kV ICT at Bara & Mainpuri would strengthen the evacuation of Bara TPS generation in case of N-1 contingency of 765kV Bara-Mainpuri ckt-2.
2	400/220kV Chittorgarh	(RRVPNL)	RVPNL deliberated in "Intra-State/Inter-State Transmission Expansion Plan for the State of Rajasthan" meeting held under chairmanship of Member (Power System), CEA on 22nd March'22 The 315 MVA ICT to be installed at Chittorgarh is to be diverted from Kalisindh TPS. The NIB issuance is under process. The likely timeline of completion is Nov,23. Limiting TTC/ATC of Rajasthan
3	400/220kV Merta	(RRVPNL)	Technical proposal for new ICT at Merta has been approved and is under process for Administrative & Financial Sanction. Likely completion November, 2023. Limiting TTC/ATC of Rajasthan
4	400/220kV Kurukshetra	POWERGRID	500MVA ICT at Kurukshetra. (Awarded to POWERGRID under RTM) HVPN & POWERGRID to plan & implement SPS at Kurukshetra(PG) till commissioning of additional ICT. Approved in 4 NRPCTP held on 05.10.2021. Expected till Feb'23.
5	400/220kV Deepalpur	JKTPL	500MVA ICT at Deepalpur. HVPN has implemented SPS at Deepalpur till commissioning of additional ICT. Approved in 4 NRPCTP held on 05.10.2021.
7	Addition of new 1x315 MVA(or 1x500 MVA if possible), 400/220kV ICT at Amargarh.	STERLITE	Approved in 3 NRPCTP held on 19.02.2021
8	400kV Lahal-Chamera Pool D/C	HPPTCL	Line is delayed due to Covid & forest clearance issues. Necessary for safe evacuation of power from Bajoli Holi HEP and other SHEP connected at Lahal.

# Important Grid Elements under Construction (WR)

S. No.	Name of Element	Agency	Remarks
1	400kV Padghe PG-Navi Mumbai-Vikhroli, 400kV Padghe PG-Kharghar, 400kV Kharghar-Vikhroli line along with Vikhroli S/s.	VNLTL, KVTPL, POWERGRID, MSETCL	Above scheme was finalized in 42nd SCM of WR dtd 17th Nov 2017. Commissioning of this network would relieve the constraints in Mumbai system. Expected by: Jun'24
2	220kV Apta-Taloja and 220kV Apta-Kalwa LILO at Navi Mumbai	Sterlite (Awarded on 23.06.2020)	Addl. Feed to Navi Mumbai (Part System). Expected by Jun'23
3	LILO of 220kV Padghe-Wada & Kolshet-Wada at Kudus.	MSETCL	For relieving constraint at Padghe & Boisar area.
4	LILO of 220kV Tarapur-Borivali & Boisar-Ghodbandar at Kudus.		
5	765/400kV Navsari New along with 765kV Padghe GIS-Navsari D/c, 400kV Navsari New-Kala D/c, 400kV Navsari New-Magarwada D/c lines	POWERGRID	For Gujarat Import TTC improvement (Jun-2023 time frame)
6	220kV Rewa-Rewa D/C & 220kV Rewa-Sidhi D/C	MPPTCL	To relieve loading on Satna ICTs & increase import TTC/ATC of MP. <b>220kV Rewa-Rewa(MP) D/C commissioned on 21.9.2022. Around 80MW total relief observed in 2x315MVA+1x500MVA Satna ICTs.</b>

# Important Grid Elements under Construction (WR)

S. No.	Name of Element	Agency	Remarks
7	400/220 kV Guna substation along with associated transmission system (ATS)	PBGTL	To relieve loading on Bina PG ICTs & increase import from ISTS by MP. 400/220kV Guna S/s alongwith 400kV Bina-Guna D/c <b>commissioned on 29.9.2022.</b>
8	400/220 kV Kirnapur 3 <sup>rd</sup> ICT	PPTCL	To relieve loading on existing ICTs & increase import TTC/ATC of MP
9	400/220kV Dardehi S/s along with 220kV outlets	CSPTCL	Would relieve congestion in CSPTSL system for drawl of more power from the Grid.
10	400/220kV Bhatapara PG 3 <sup>rd</sup> ICT along with 220kV outlets	POWERGRID, CSPTCL	To increase import from ISTS by Chhattisgarh.
11	400/220kV Xeldem Substation, 400kV Mapusa-Xeldem D/c line & 400kV Narendra-Narendra one ckt LILO at Xeldem along with downstream network at Xeldem	GTTPL	It helps in additional infeed to Goa and will improve the reliability.
12	400/220kV Vapi-II substation along with 220kV outlets for DNH	VNLTL	Would relieve loading of 220kV Kala-Khadoli D/c lines and thus would increase the import capability of DNH



# Important Grid Elements under Construction (SR)

S. No.	Name of Element	Agency	Remarks
1	765/400kV Nizamabad ICT-3	POWERGRID	Enhances NEW-SR import TTC/ATC
2	765kV Warora – Warangal – Maheswaram – Kurnool D/C	WKTL	Will enhance import of SR
3	400kV Kadakola SS and Associated system	KPTCL	Will relieve over loading on Mysore ICTs and downstream
4	400kV Kottayam SS and Associated system	KSEBL	Will enhance the TTC/ATC of S3 (KERALA)
5	400/220kV Cochin ICT-3	Powergrid	Will enhance the TTC/ATC of S3 (KERALA)
6	400/230kV Vellalavididi SS	TANTRANSCO	Enhances S1-(S2 and S3) and Tamil Nadu control area TTC/ATC
7	400/230kV Thiruvallam ICT-3	TANTRANSCO	Enhances S1-(S2 and S3) and Tamil Nadu control area TTC/ATC

# Important Grid Elements under Construction (NER)

S. No.	Name of Element	Agency	Remarks
1	New 132 kV Loktak- Ningthoukhong D/C	MSPCL	Enhance transfer capability of Manipur Power System. As per 191th OCCM, work delayed due to RoW issues target date is Jul'22. Ckt – 1 is commissioned and circuit – 2 is to be expedited.
2	132 kV Monarchak – Surjamaninagar D/C	TSECL	Enhance reliable evacuation of Monarchak Power Station. As per minutes of special meeting with Tripura held on 19th May, timeline for commissioning of 132 kV Monarchak – SM Nagar D/C was Oct'22 subject to resolution of RoW issue. RoW issue due to unduly high compensation demand by owners of the lands.

# Number of Grid Incidents/Disturbances in Q2 FY 2022-23

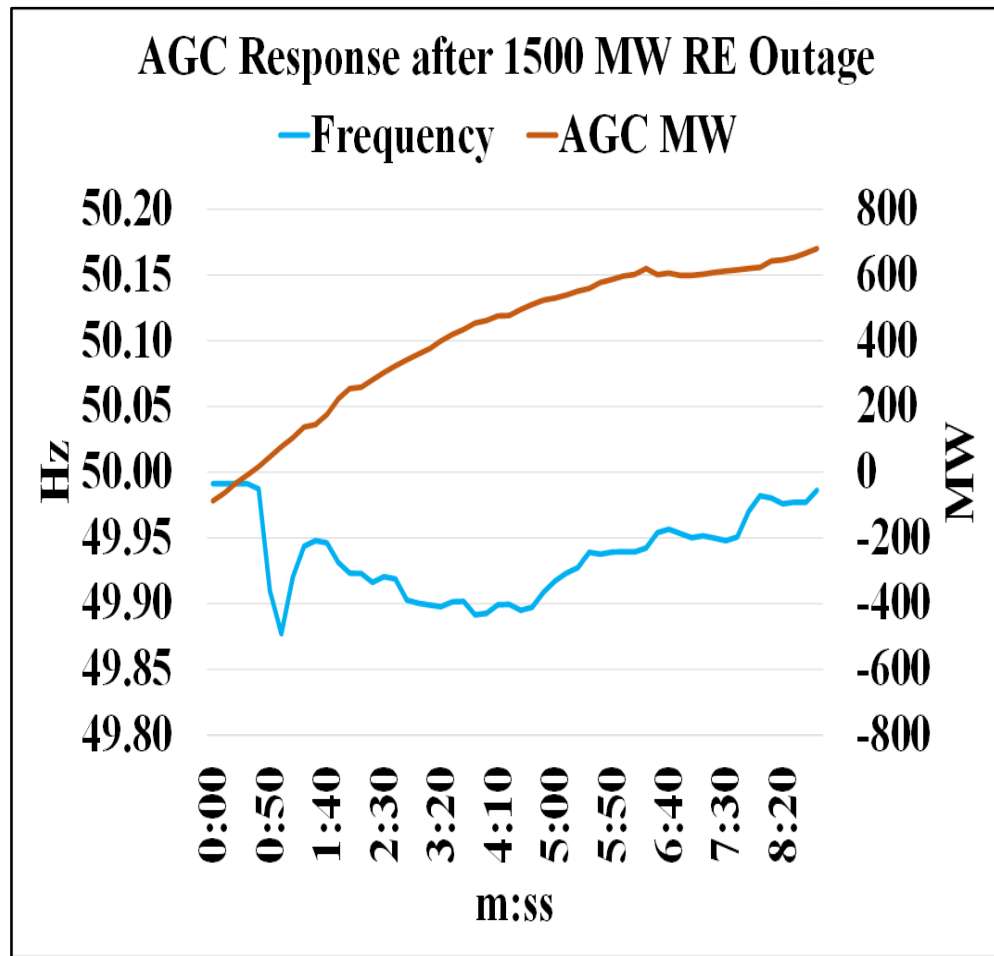
Region	Grid incidents		Grid Disturbances					Total
	GI-1	GI-2	GD-1	GD-2	GD-3	GD-4	GD-5	
NR	0	11	47	0	0	0	0	58
WR	8	12	16	0	0	0	0	36
SR	13	3	26	0	0	0	0	42
ER	1	0	20	0	0	0	0	21
NER	4	15	74	0	0	0	0	93
All India	26	41	183	0	0	0	0	250

# Automatic Generation Control (AGC) Summary

- ❑ Frequent communication issues with
  - Bongaigaon (750 MW), Loktak (105)
  - Anta (419 MW)
  - Dulhasti (390), Bairasiul (180)
- ❑ Intermittent fluctuations in communication
  - Tehri (1000 MW)
  - Mauda-I&II (2320 MW)
- ❑ Last mile connectivity issue
  - RGPPL

## Present AGC status

- 64937 MW wired,
- 68 plants
- Thermal – 56100 MW
- Hydro – 5622 MW, two shifting
- Gas – 3214 MW

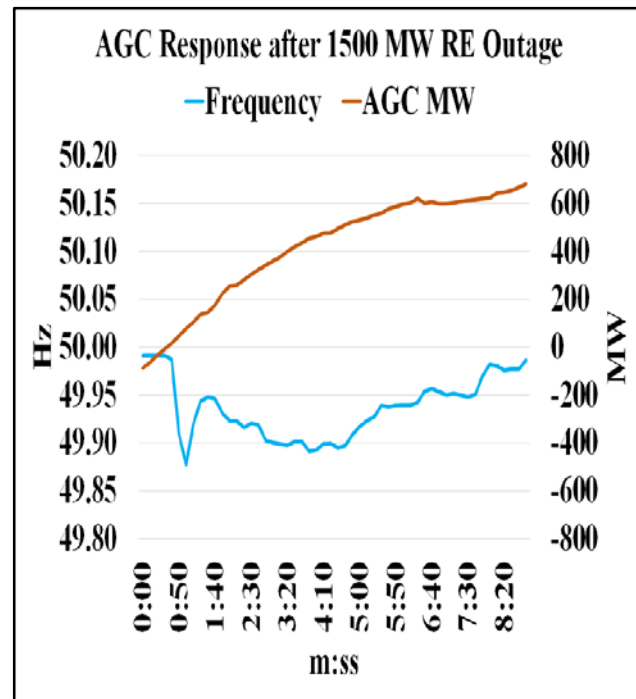


Frequency Control with High RE

# Automatic Generation Control (AGC) Summary

## Plants which completed closed loop testing

NR		WR		SR		ER		NER	
Koteshwar	400	Mauda-2	1320	Simhadri-2	1000	Barh-2	1320	Bongaigaon	750
Nathpa Jhakri	1500	CGPL	4150	Simhadri-1	1000	MPL	1050	Loktak	105
Chamera-3	231	Sipat-2	1000	NTECL Vallur	1500	Kahalgaoon-2	1500		
Dulhasti	390	Vindhyachal-2	1000	Ramgundam-II	1500	Teesta-V	510		
Tehri	1000	Korba-1&2	2100	Ramgundam-III	500	Rangit	66		
Rihand-I	1000	Korba-3	500	NTPL	1000	NPGCL	1980		
Rihand-II	1000	Sipat-1	1980	Kudgi	2400	Farakka-II	1000		
Rihand-III	1000	Vindhyachal-4	1000	Neyveli TPS 1 (Expn.)-NLC	420	Farakka-III	500		
Anta	419.3	Vindhyachal-3	1000	NLC-II stg-II	840	MTPS Stg-II	390		
Chamera-2	300	Vindhyachal-5	500	NLC-II stg-I	630	Talcher-II	2000		
Chamera-1	540	Solapur	1320	NNTPP	1000	Talcher-I	1000		
Dhauliganga	280	Gandhar	657	Neyveli TPS 2 (Expn.)-NLC	500	Barh-1	660		
Unchahar-III	210	NSPCL	500						
Unchahar-IV	500	Mauda-1	1000						
Auraiya	652	Lara	1600						
Bairasiul	180	Gadarwara	1600						
Tanda-2	1320	Kawas	656						
Unchahar-II	420	Khargone	1320						
Singrauli	1000								
IGSTPS	1500								
Dadri Gas	830								
Dadri-2	980								
Dadri-1	840								
Sewa-II	120								
NR Total	16612	WR Total	23203	SR Total	12290	ER Total	11976	NER Total	855



Frequency Control with High RE

**Total 64937 MW, as on 31st December'22**

**Development of an Efficient,  
Coordinated and Economical ISTS for  
Smooth Flow of Electricity -  
Rolling Plan (2026-27)**

**Central Transmission Utility of India Ltd.**

**17<sup>th</sup> Jan 2023**

- Background
- Power Scenario FY 2021-22 vs 2026-27
- Study Scenarios and LGB
- System Studies and Result Analysis
- Summary



(ii) The CTU, as mandated under the Electricity Act, 2003, is to carry out periodic assessment of transmission requirement under ISTS.

The CTU shall also make a **comprehensive presentation before the NCT every quarter** for ensuring development of an efficient, co-ordinated and economical ISTS for smooth flow of electricity.

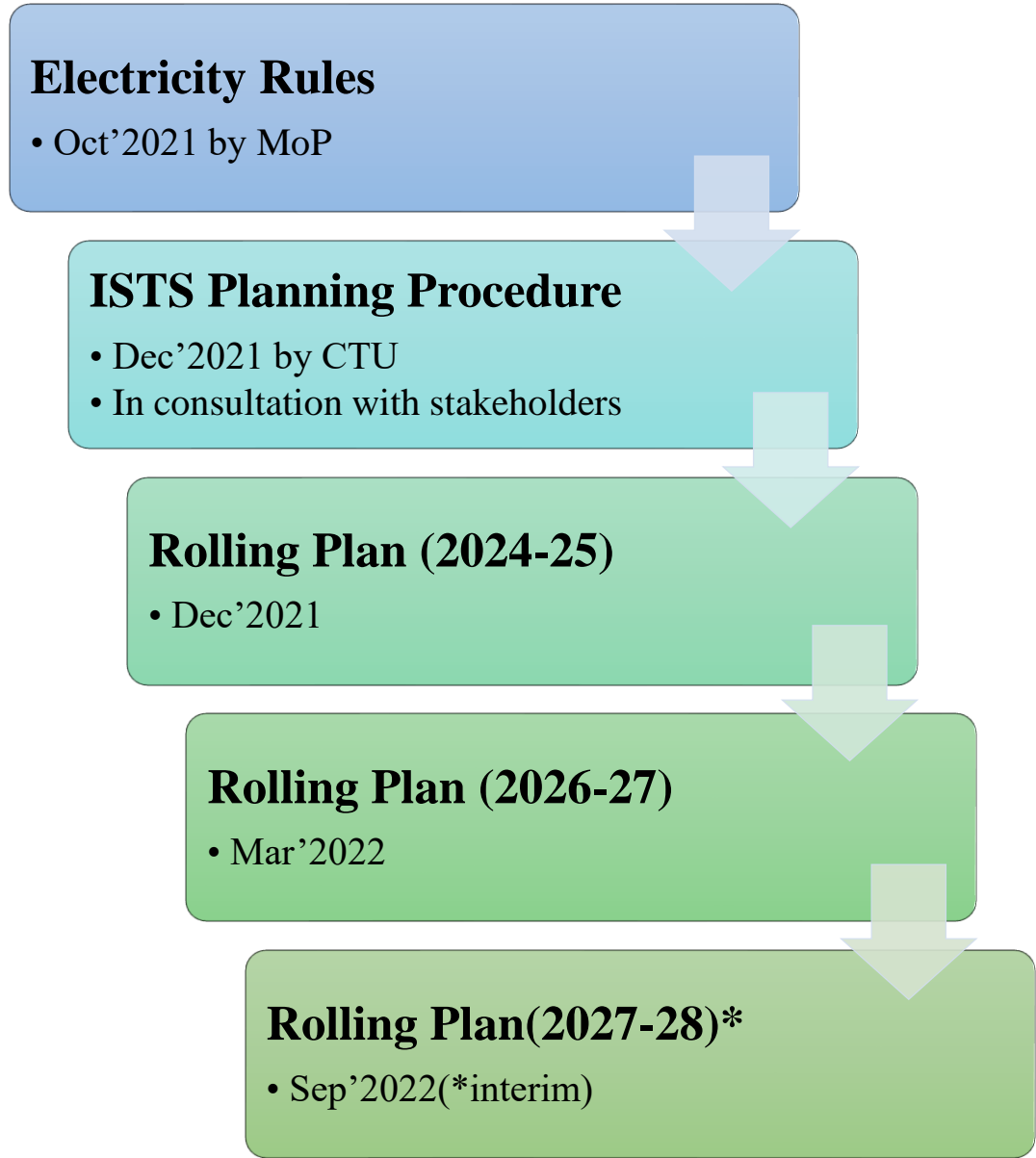
The CTU, in the process, may also take inputs from the markets to identify constraints and congestion in the transmission System.

- Quarterly

(iv) As per provision of Electricity (Planning, Development and Recovery of ISTS charges) Rules 2021 , the CTU shall also prepare a five-year rolling plan for ISTS capacity addition every year.

The **Annual Plan shall be put up to the NCT** six months in advance, e.g. The Annual Plan for FY 2023-24 will be put up before the NCT by 30th September 2022.

- Annually



## Rolling Transmission Plan

Undertaken on continuous basis, twice a year  
(Apr-Sep Cycle) & (Oct-Mar Cycle)

Data Collection & Validation

Preparation of Scenarios/LGBs

System Studies

Preparation of preliminary proposals seeking stakeholder comments

Final report (based on comments received)

## NETWORK PLAN (2024-25)

Inter State Transmission System (ISTS)



Prepared by  
Central Transmission Utility (CTU)

December 2021

## Rolling Plan 2026-27

Inter-State Transmission System (ISTS)



March 2022

Central Transmission Utility (CTU)

September 2022

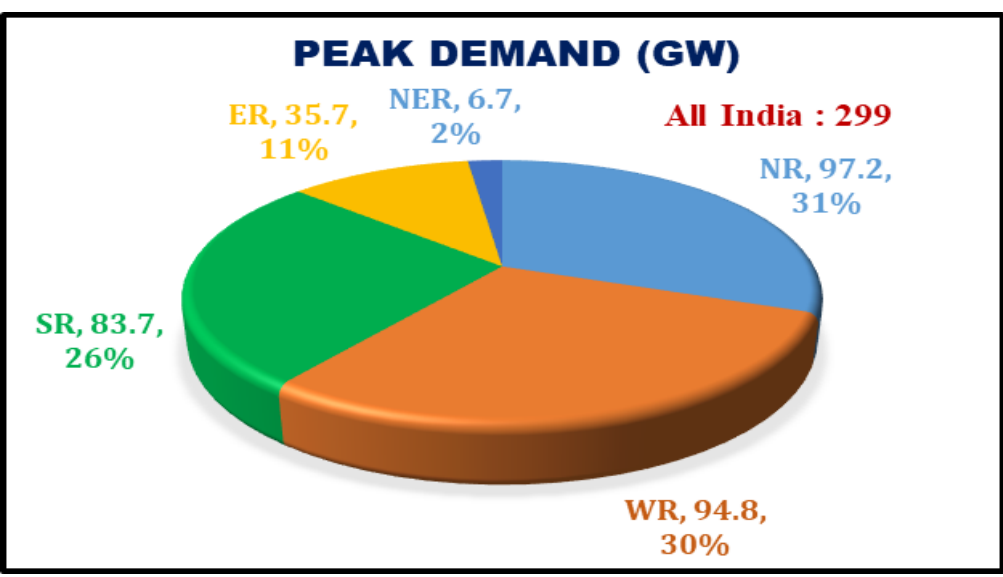
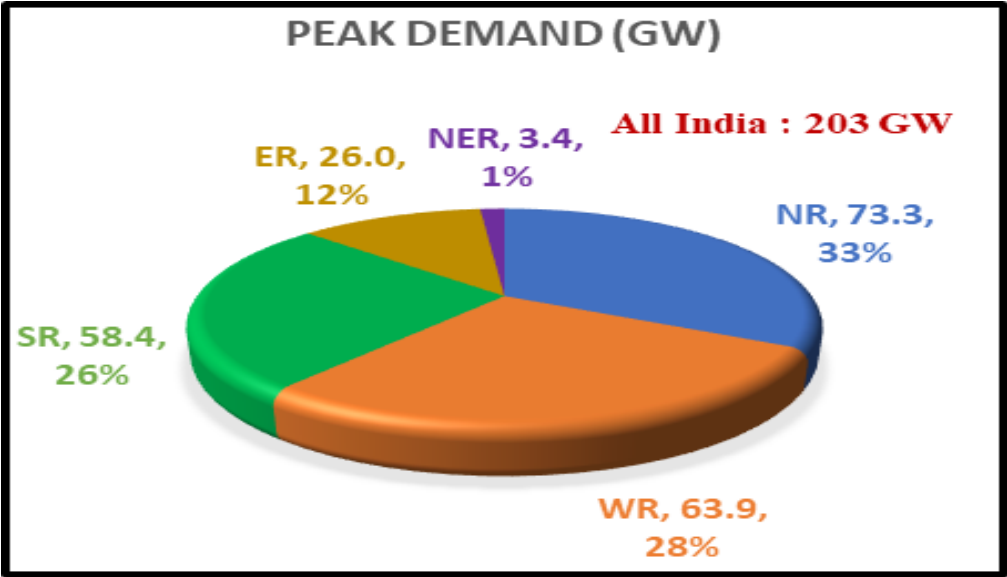
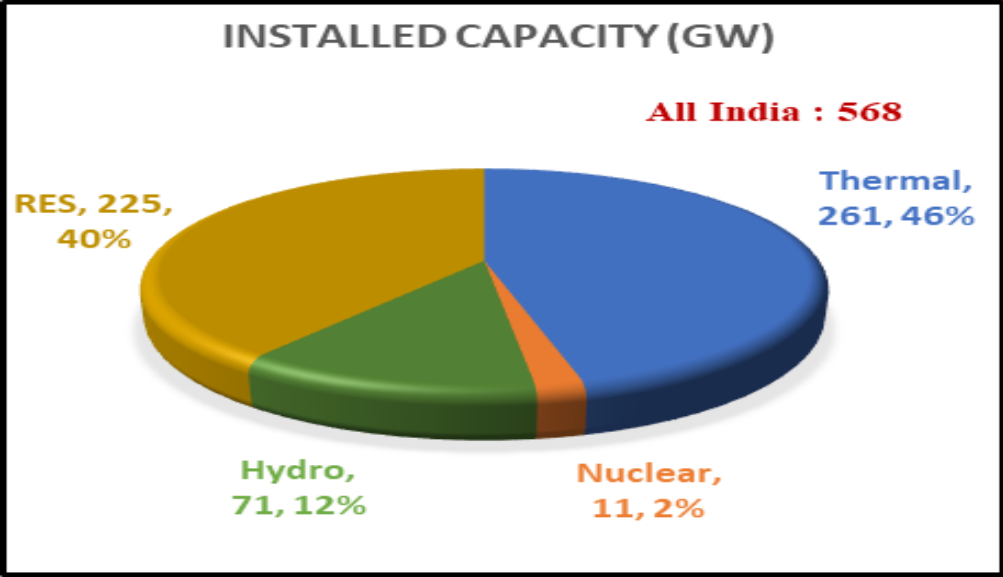
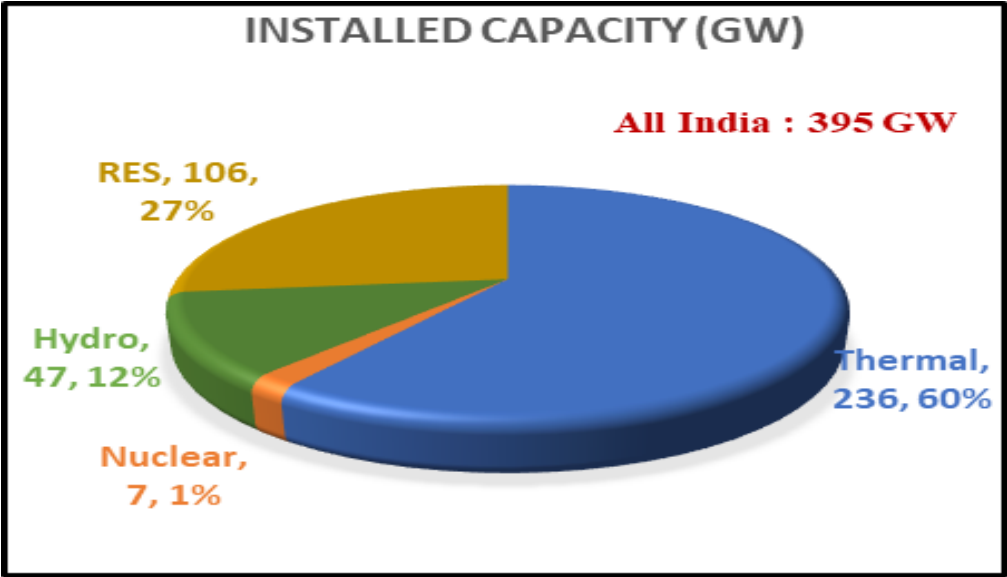
## ROLLING PLAN 2027-28

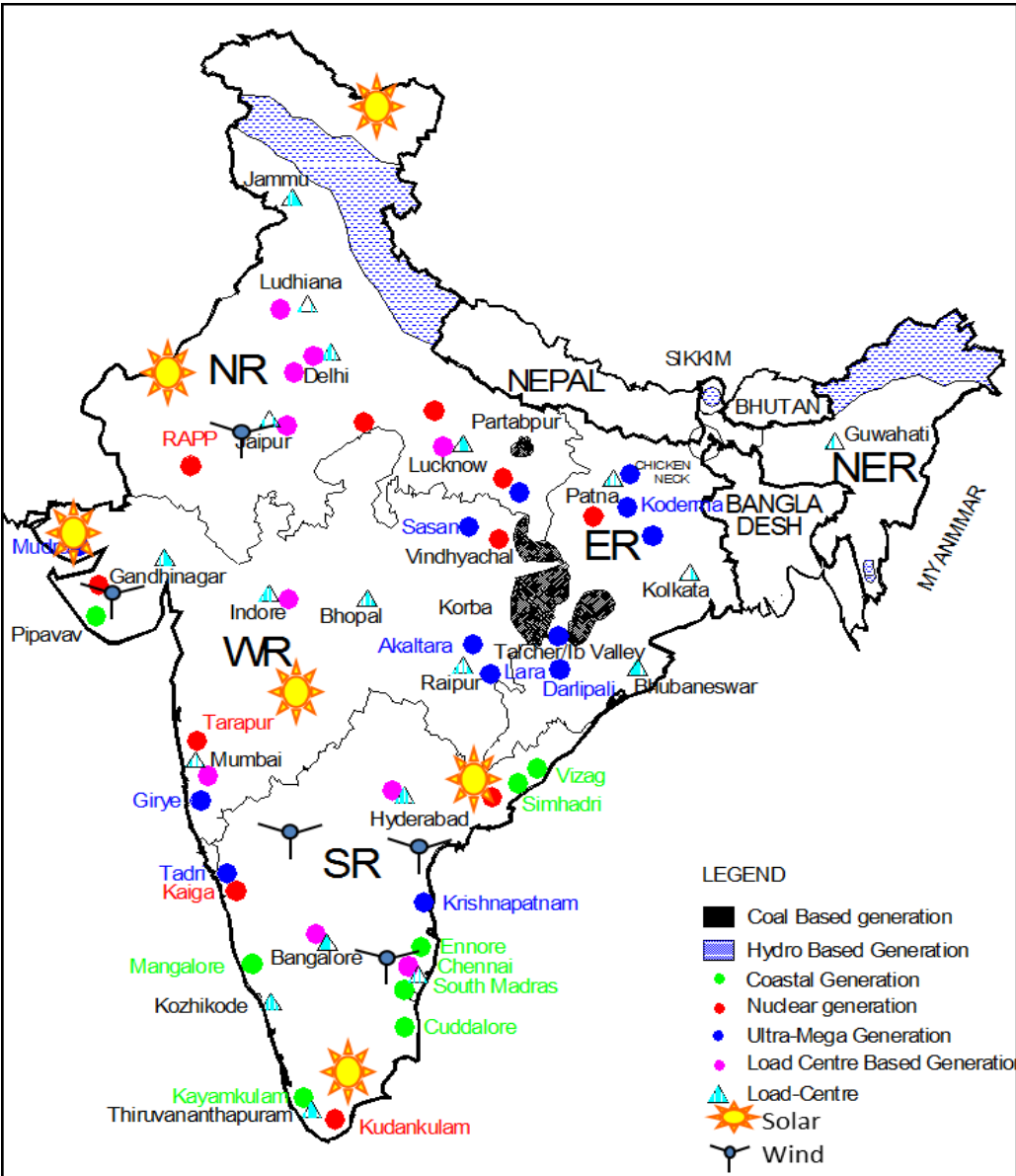
INTER-STATE TRANSMISSION SYSTEM (ISTS)  
(INTERIM REPORT)

CENTRAL TRANSMISSION UTILITY

As on Jan'22

2026-27

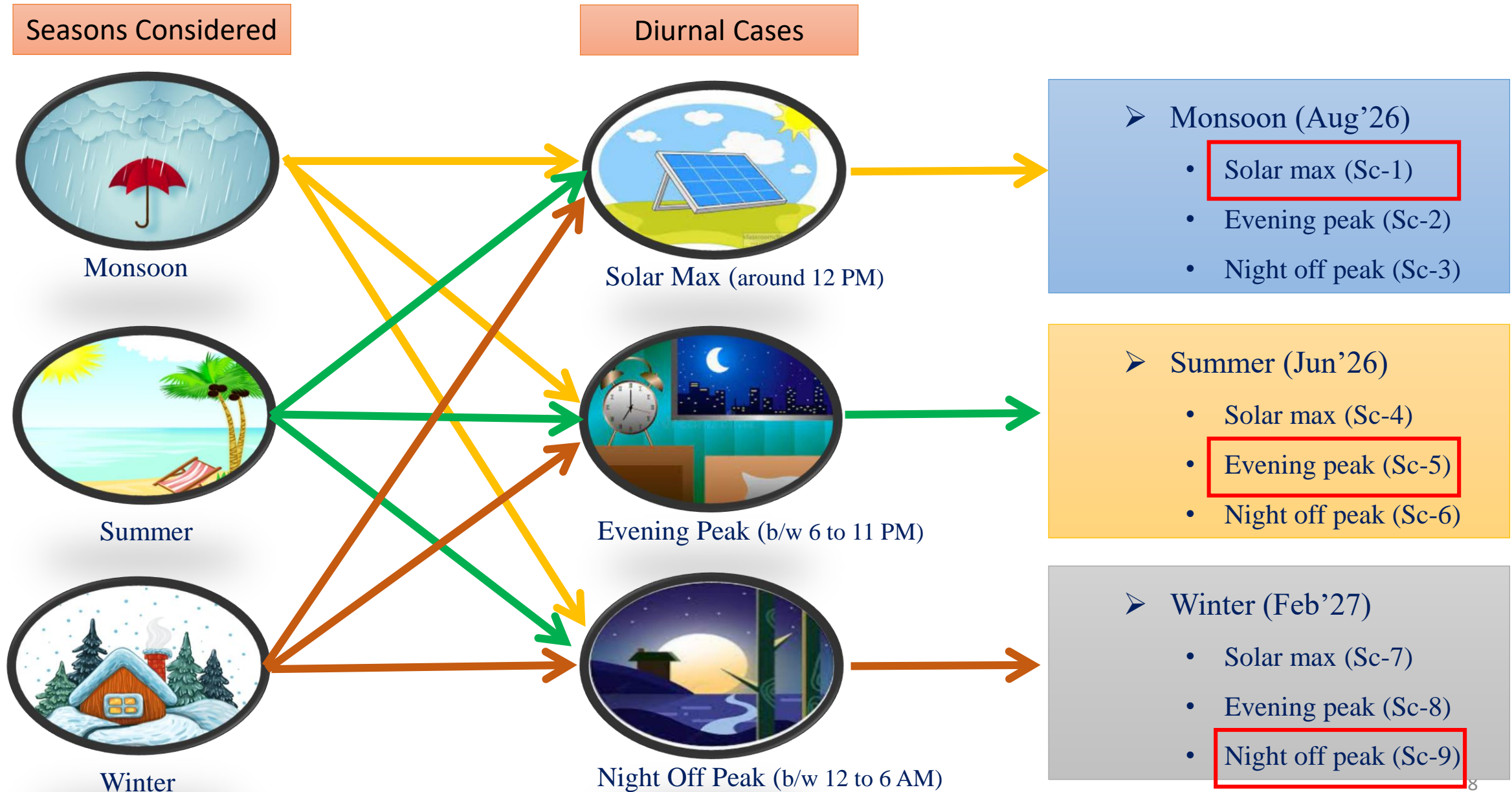




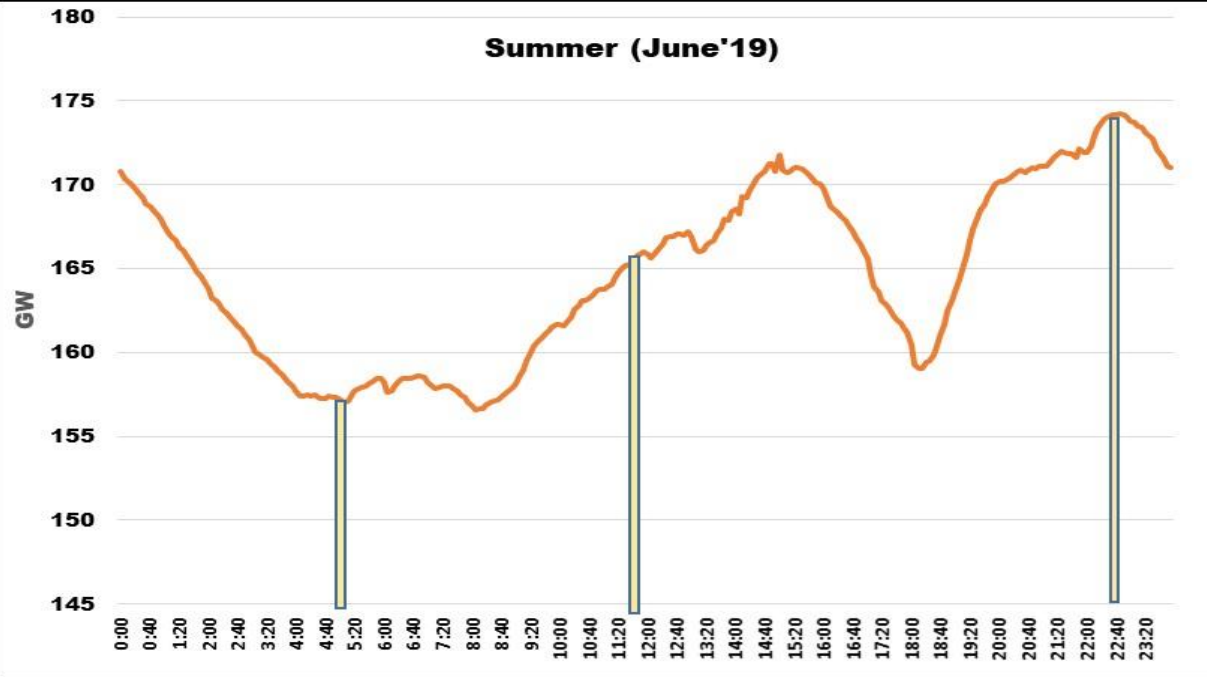
- Planning based on thermal resources
  - Load centers are distributed across country
  - Conventional Generation in Eastern part
  - Strong backbone network planned and implemented
- Planning based on renewable resources
  - RE in western and southern part
  - New system is being planned and implemented
  - Power flow on transmission lines is also changing

Important to understand diurnal and seasonal regional exchanges





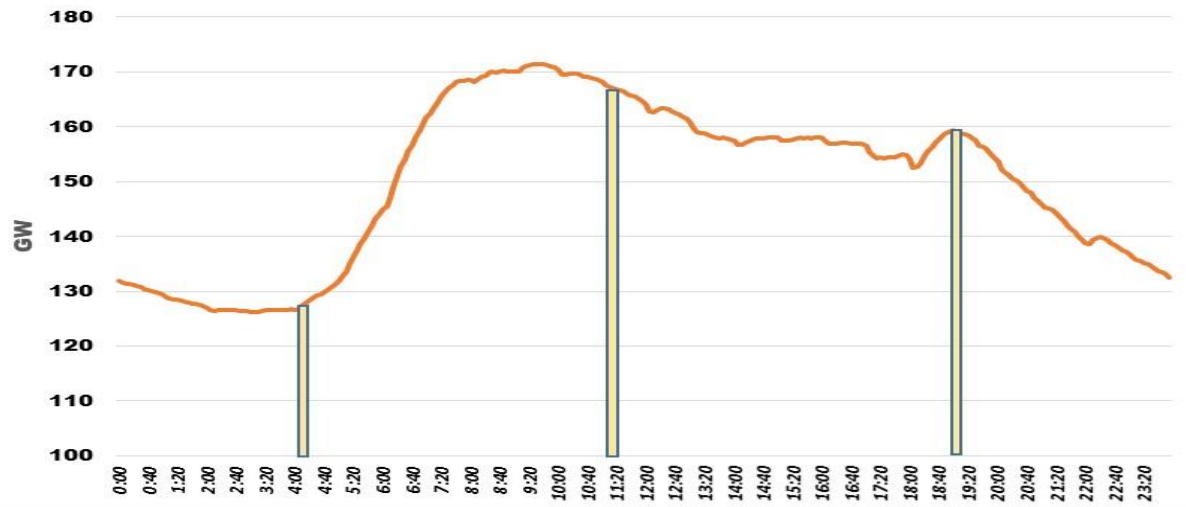
**Summer (June'19)**



**Monsoon (Aug'19)**



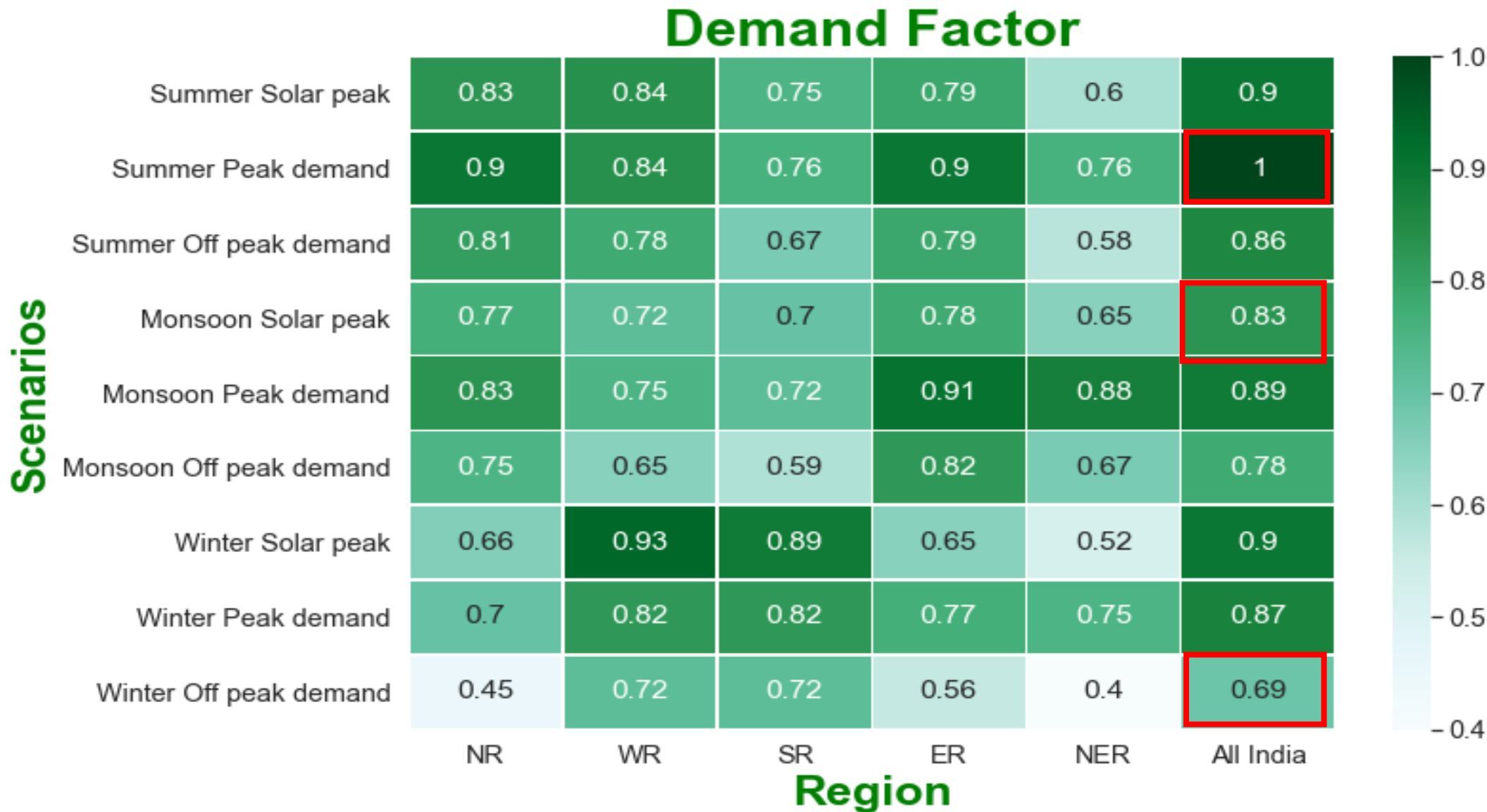
**Winter (Feb'20)**



## Observations

- Peak Demand in June around 10:30 PM
- Peak Demand in August around 08:00 PM
- Peak Demand in February around 10:00 AM
- Off peak demand in all months around 04:00 AM<sup>9</sup>





- Despatch of Hydro, Nuclear, Solar, Wind and Gas generation is set as below

Scenario No & Name	Hydro	Nuclear	Solar	Wind	Gas
1-Monsoon Solar Max	40%	80%	80%	55%	0%
2-Monsoon Peak Load	70%	80%	0%	75%	85%
3-Monsoon Night Off Peak	40%	80%	0%	65%	65%
4-Summer Solar Max	40%	80%	85%	55%	0%
5-Summer Peak Load	70%	80%	0%	75%	85%
6-Summer Night Off Peak	40%	80%	0%	65%	60%
7-Winter Solar Max	20%	80%	90%	10%	0%
8-Wiinter Peak Load	40%	80%	0%	20%	85%
9-Winter Night Off Peak	20%	80%	0%	20%	30%

- RE generation is distributed among regions to meet RE RPO
- Balance is met through thermal generation operated between 55% & 85%
- Merit Order Despatch considered for thermal plants
- State sector thermal generation apportioned in terms of their installed capacity

# LGB & Energy Storage Requirement (Considering Thermal Tech Min@55%)

171



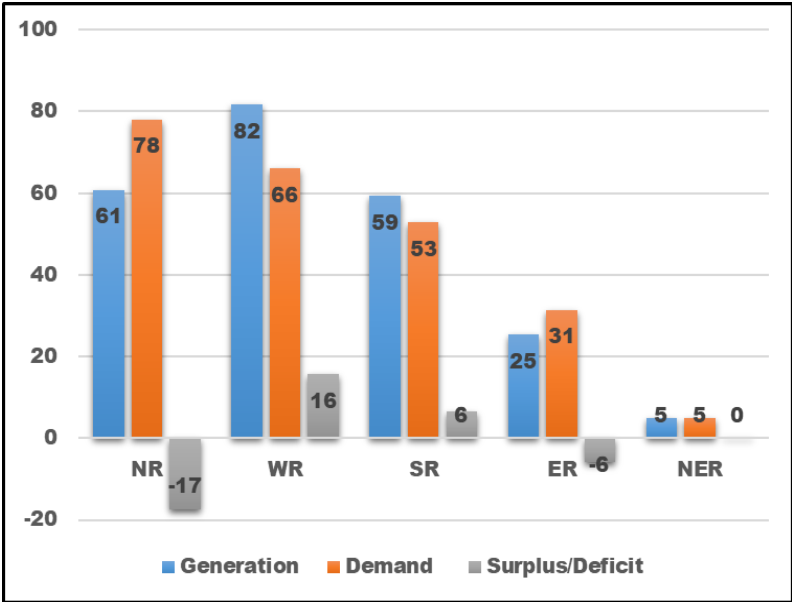
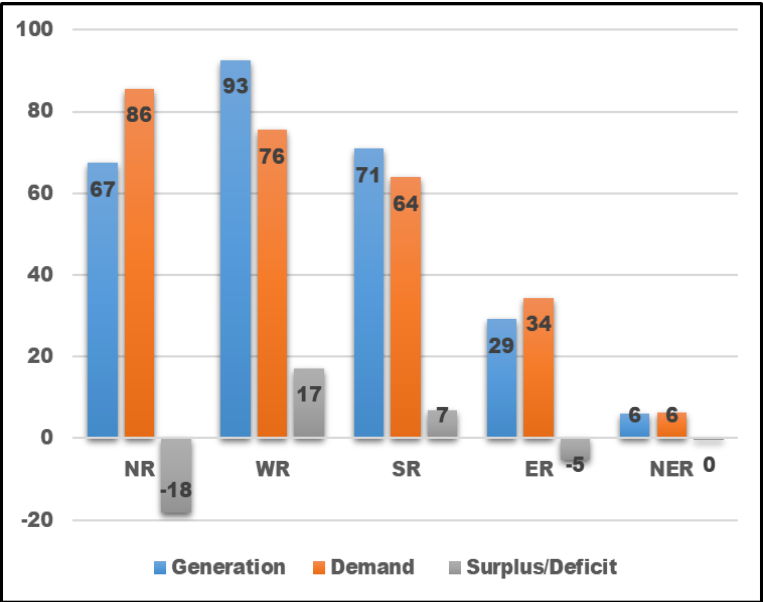
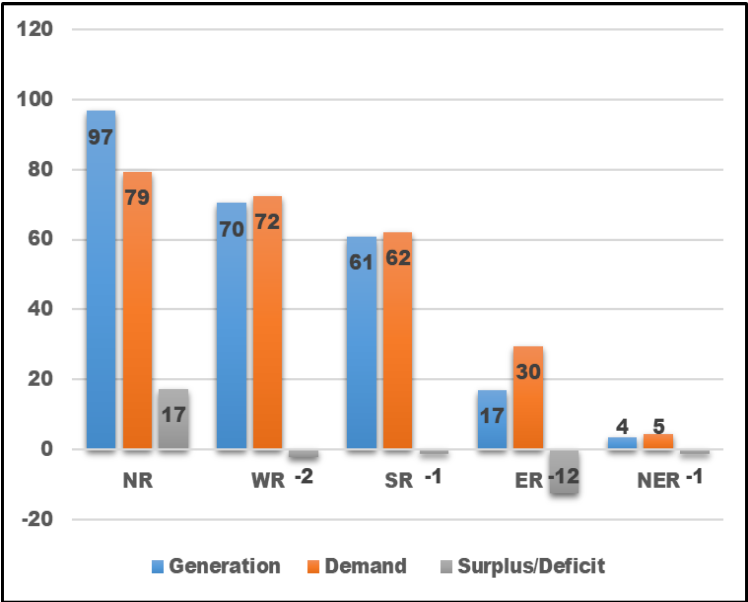
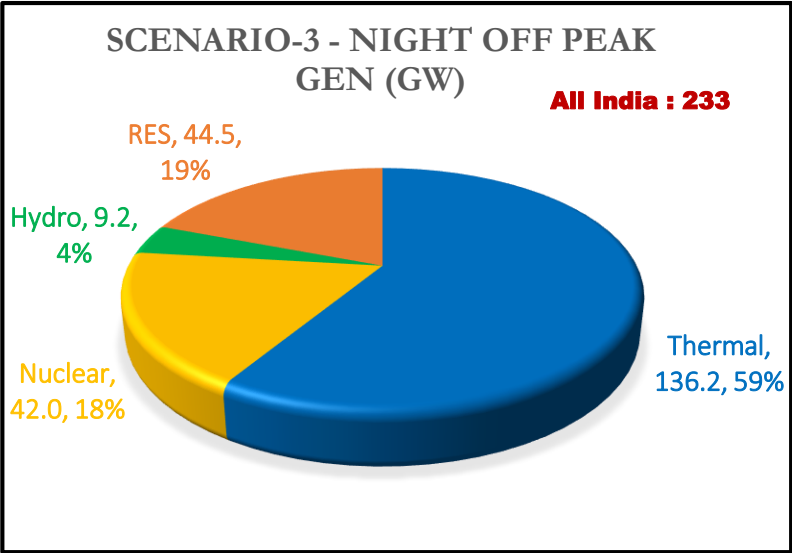
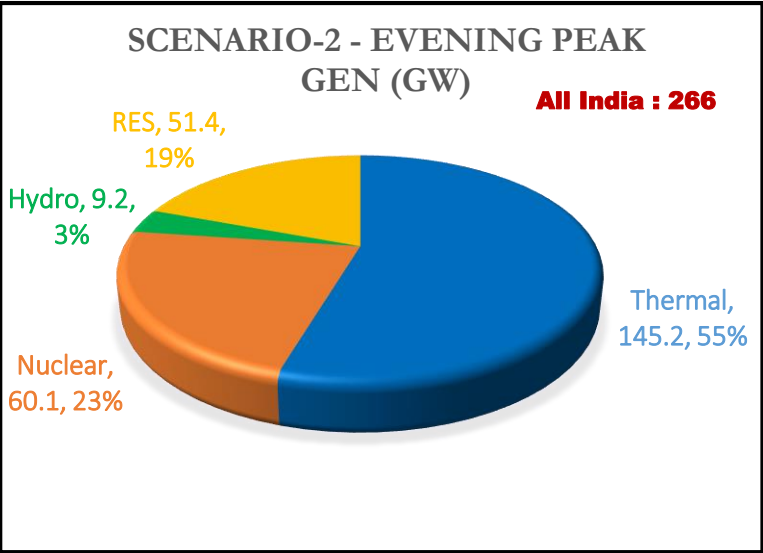
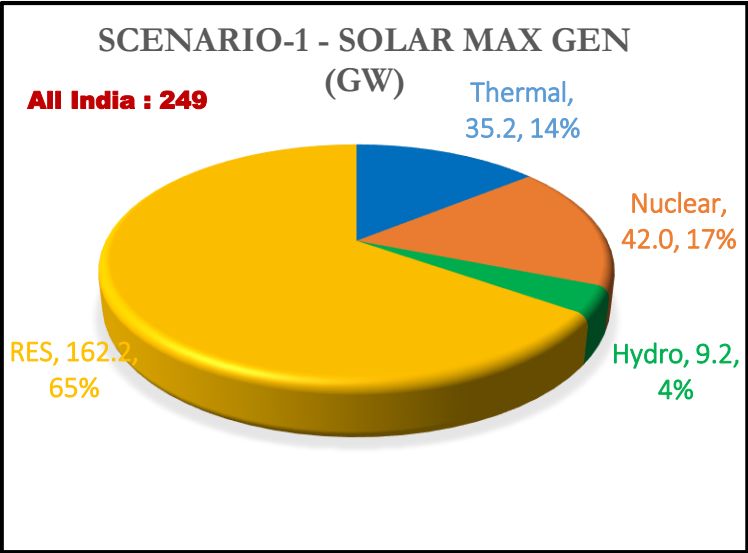
- Thermal despatch @85% in evening peak
- Thermal despatch @55% in Solar max
- Thermal despatch between 85-55% in night off peak
- Results in surplus generation of 55 GW, 59 GW & 24 GW in Aug, Jun and Feb solar max scenarios while keeping same number of thermal units on bar

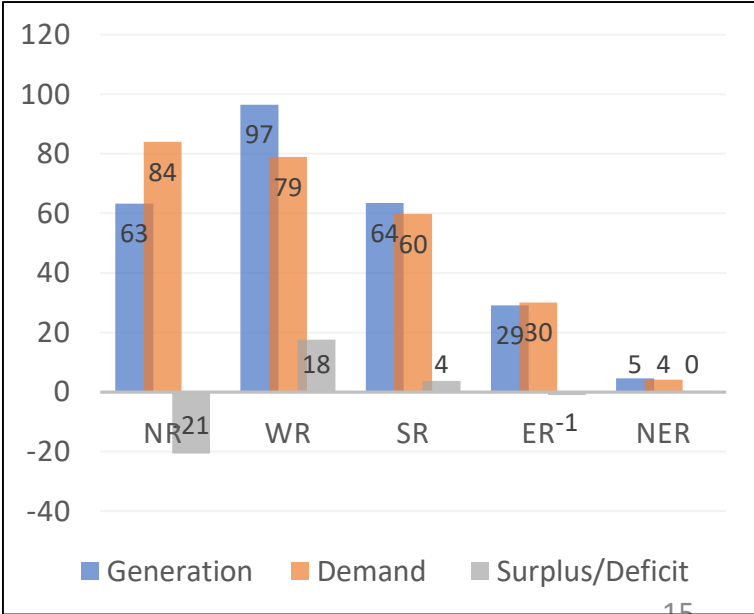
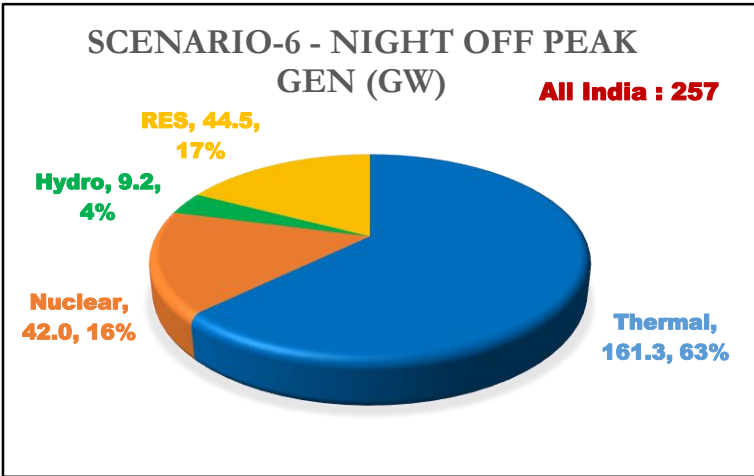
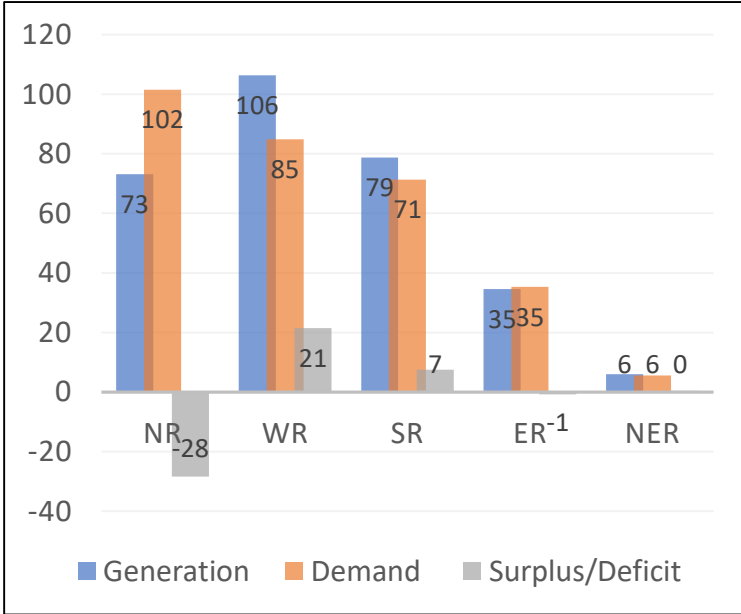
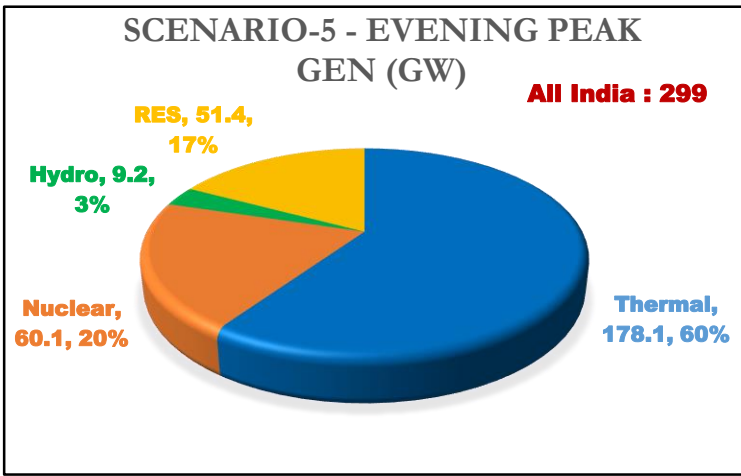
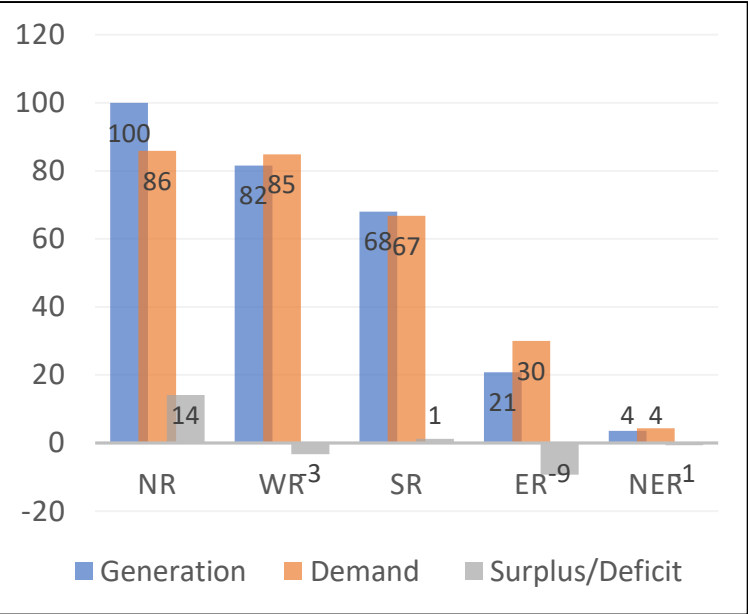
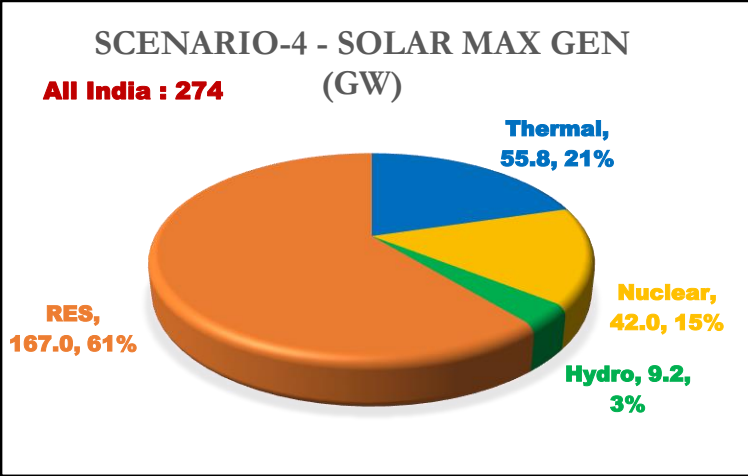
# LGB & Energy Storage Requirement (Considering Thermal Tech Min@40%)

172



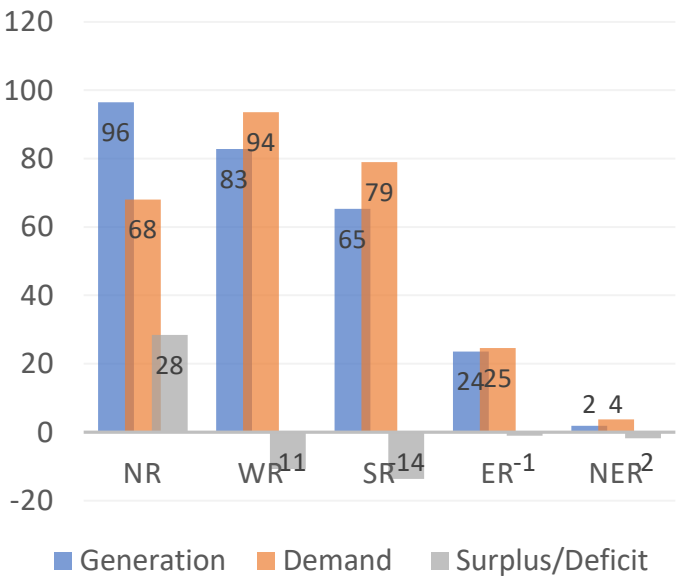
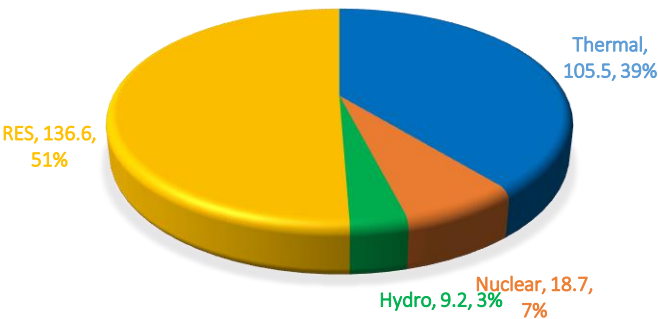
- Thermal despatch @85% in evening peak
- Thermal despatch @40% in Solar max
- Thermal despatch between 85-40% in night off peak
- Results in surplus generation of 33 GW, 30 GW & 9 GW in Aug, Jun and Feb solar max scenarios while keeping same number of thermal units on bar





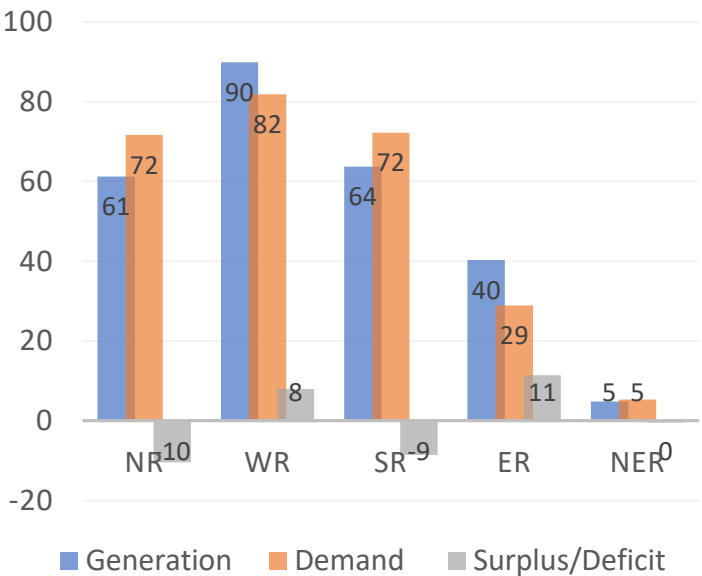
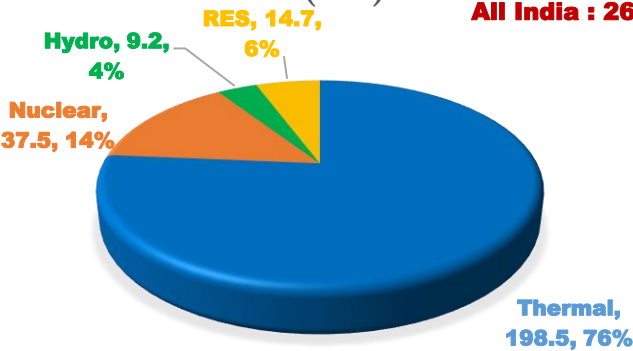
SCENARIO-7 -SOLAR MAX GEN (GW)

All India : 269



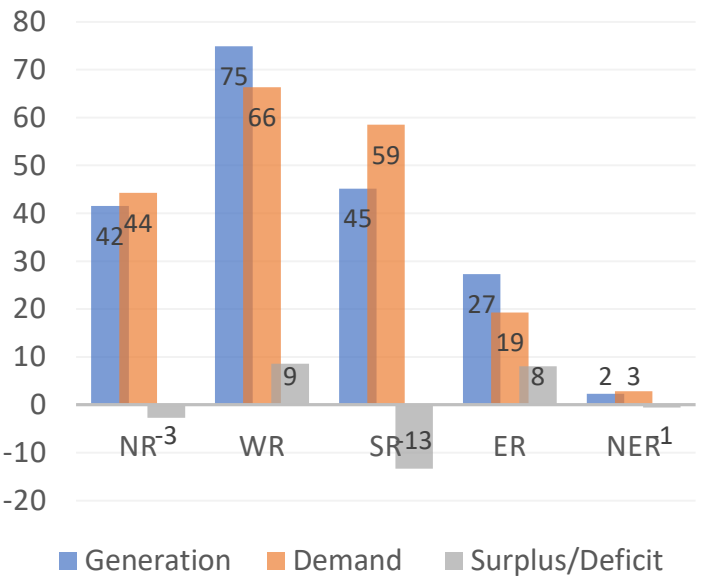
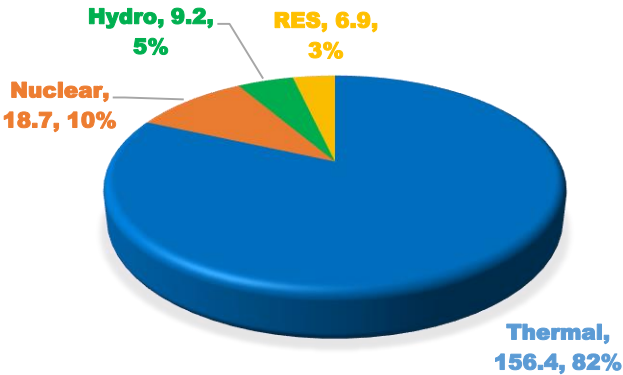
SCENARIO-8 - EVENING PEAK GEN (GW)

All India : 260

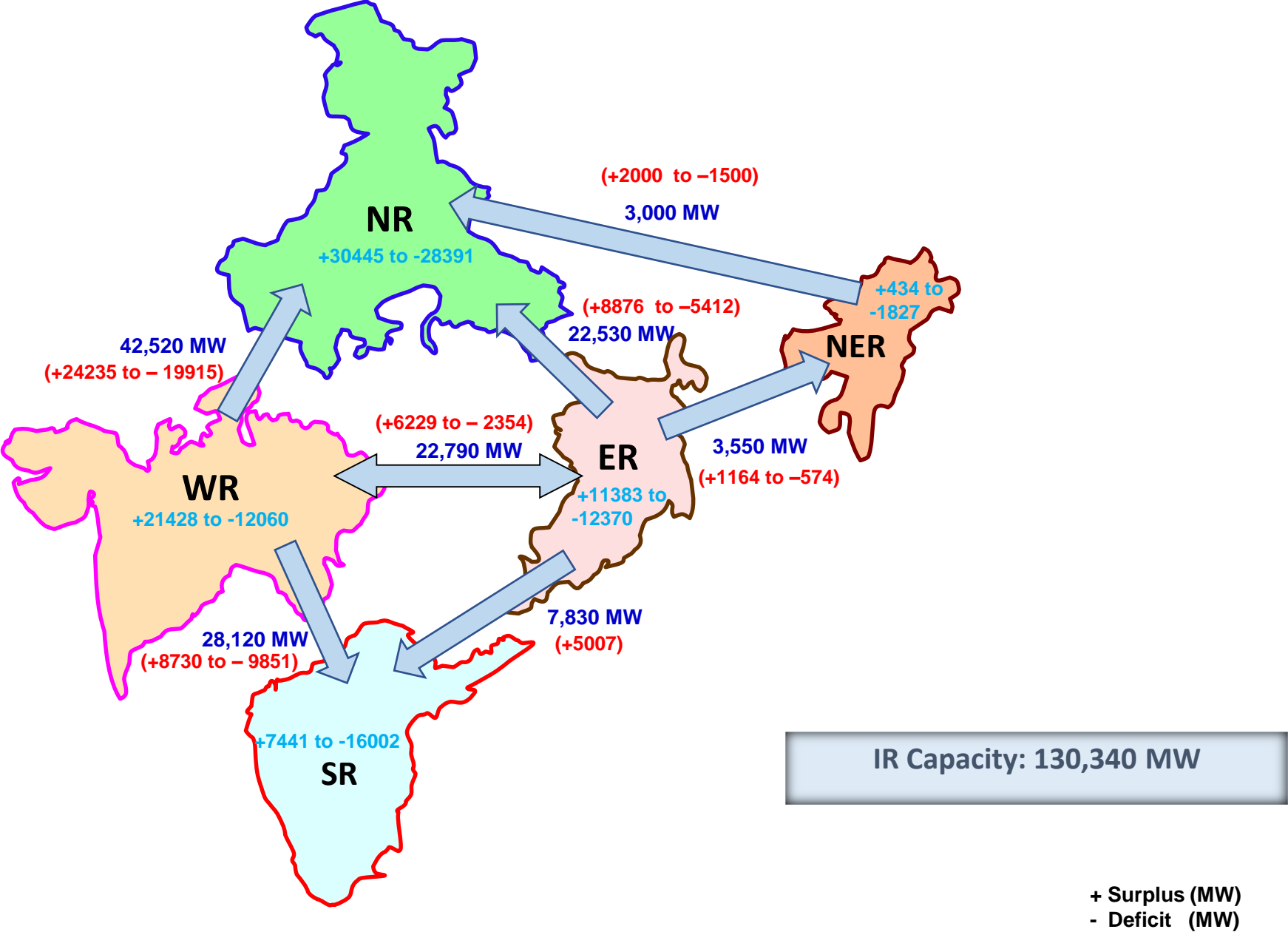


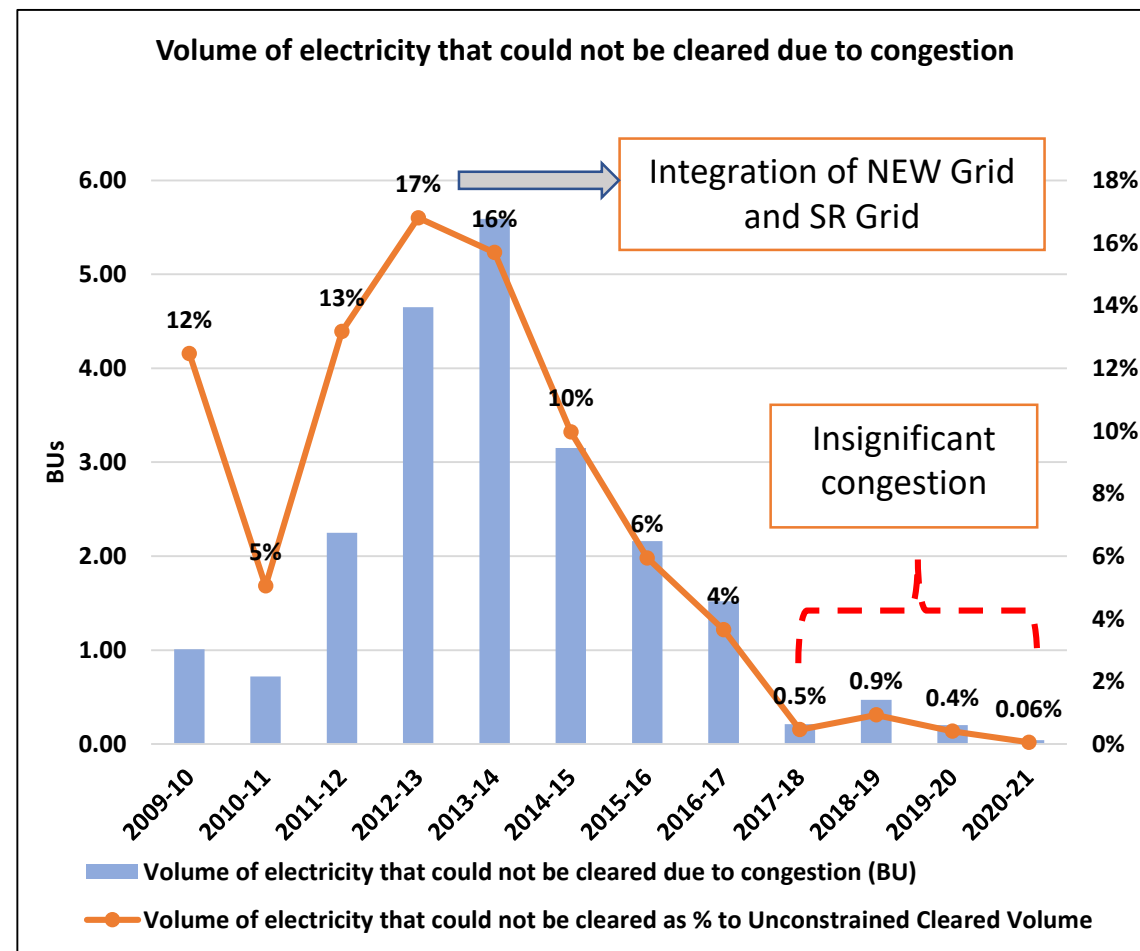
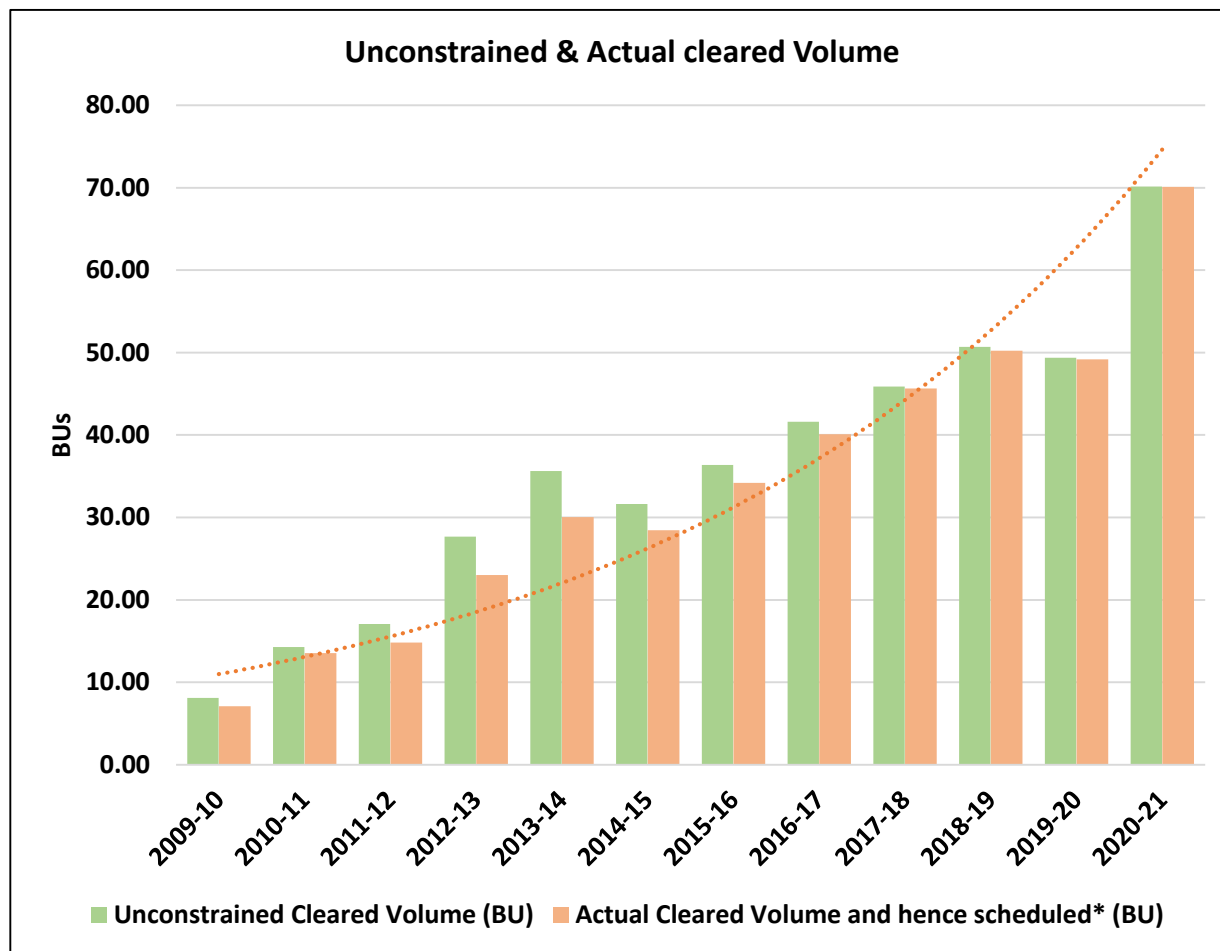
SCENARIO-9 - NIGHT OFF PEAK GEN (GW)

All India : 191









From 2017-18 onwards, the volume of electricity that could not be cleared as % to unconstrained cleared volume was consistently less than 1%, which shows that the congestion remained insignificant

## ❑ Northern Region

- Kaza Solar Power Project (880 MW)
- Luhri Stage-I (210 MW) of SJVN
- Hydro Electric Projects (1474 MW) in J&K
- ICT augmentation and bays at ISTS S/s for HVPNL
- ICT augmentation at Bhinmal S/s

## ❑ Eastern Region

- Installation of Bus Reactor at Alipurduar (PG) S/s
- Installation of SLR in both circuits of Kahalgaon – Durgapur 400kV D/c line

## ❑ North Eastern Region

- Transmission system for Dibang HEP(2880 MW)
- Establishment of 400/220/132 kV S/s in Gogamukh

## ❑ Western Region

- Transmission Network Expansion in Gujarat to increase its ATC from ISTS
- Integration of RE projects from Khavda potential RE zone
- Scheme for fault level control at Dehgam (PG), Ranchodpura (GETCO) and Indore(PG) S/s
- Raipur PS – Dhamtari 400kV D/c line & Jeypore - Jagdalpur 400kV D/c line
- Creation of 220 kV level at Raipur PS, Dharamjaigarh and Pune (GIS) S/s
- ICT augmentation at Raigarh(Kotra)
- Upgradation of 40% FSC associated with Wardha – Aurangabad 400kV D/c line at Wardha S/s from 40kA to 50kA short circuit level

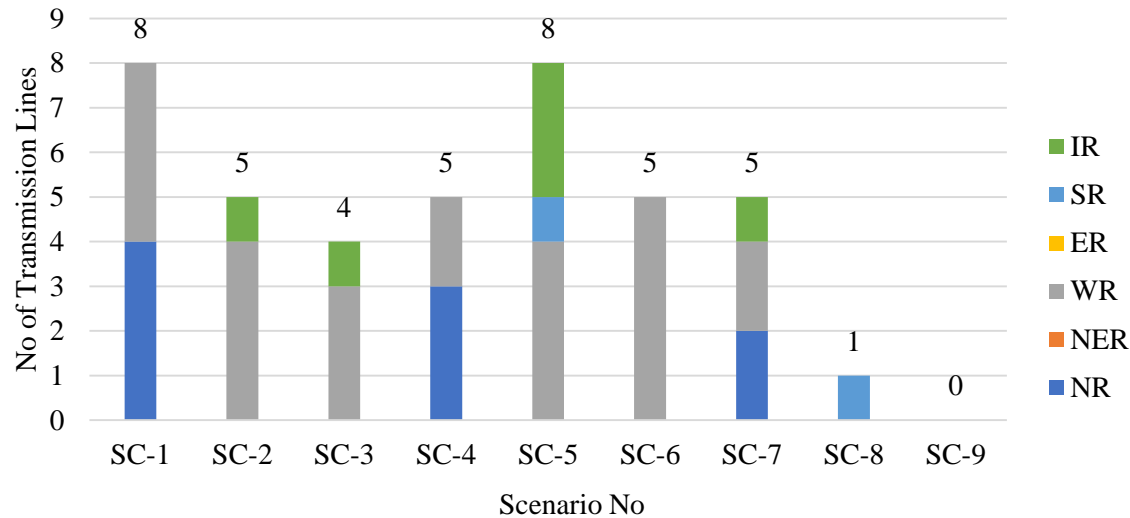
## ❑ Southern Region

- Transmission system for export of surplus power during high RE scenario in Southern Region

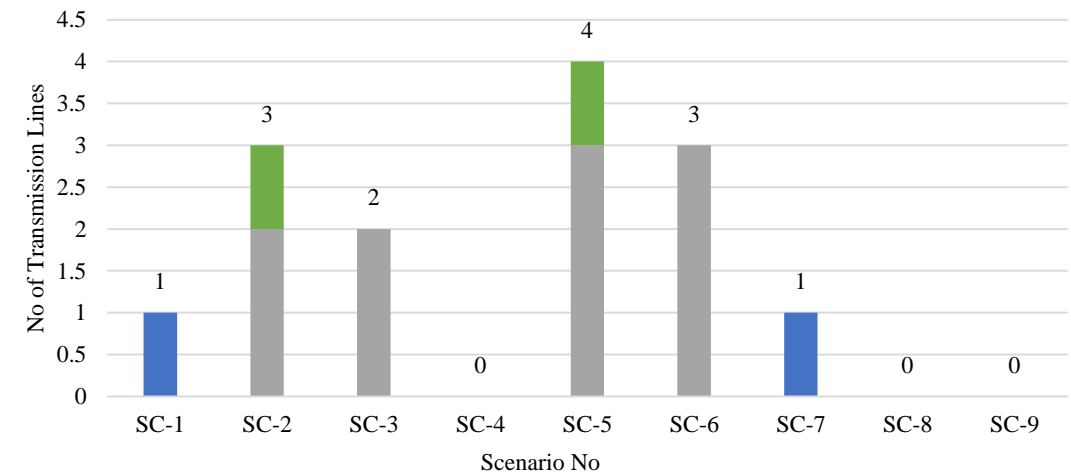
Summary of System Evolved		
Ckm	MVA	Estimated Cost(Rs. Cr)
3772	32,490	14,646

- About 318 nos. of transmission lines (ISTS and Intra-state)
- All lines loaded below 70% of thermal limit

Line Loading > 3000 MVA under N-1 Contingency

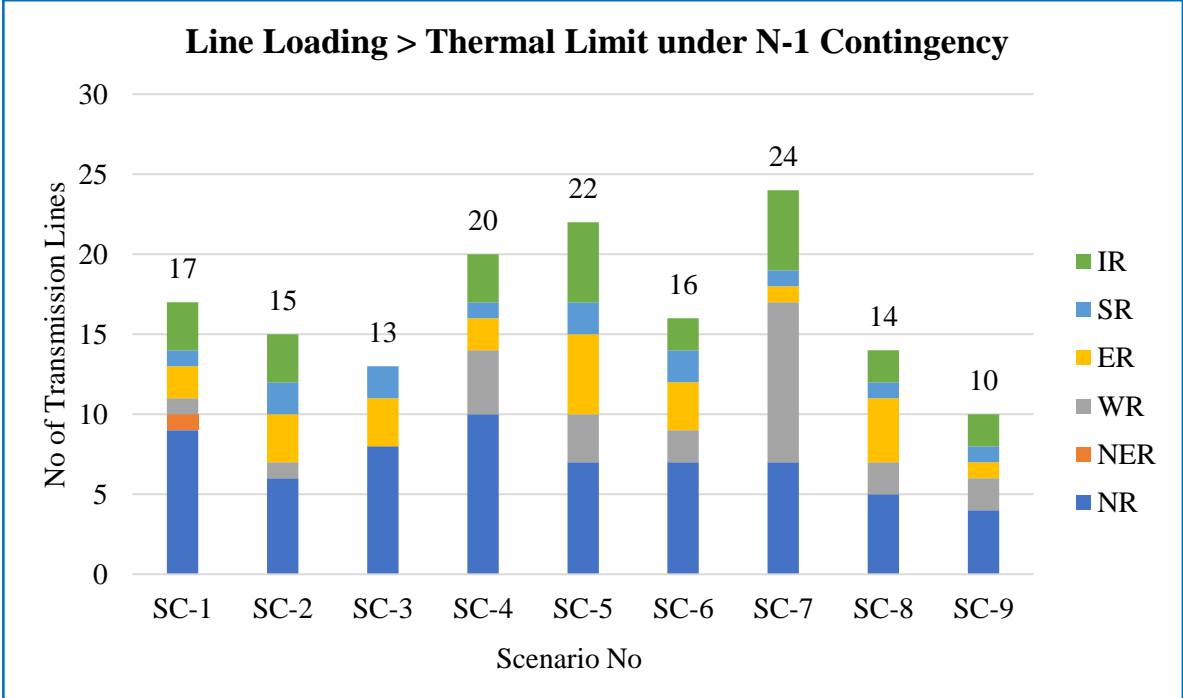
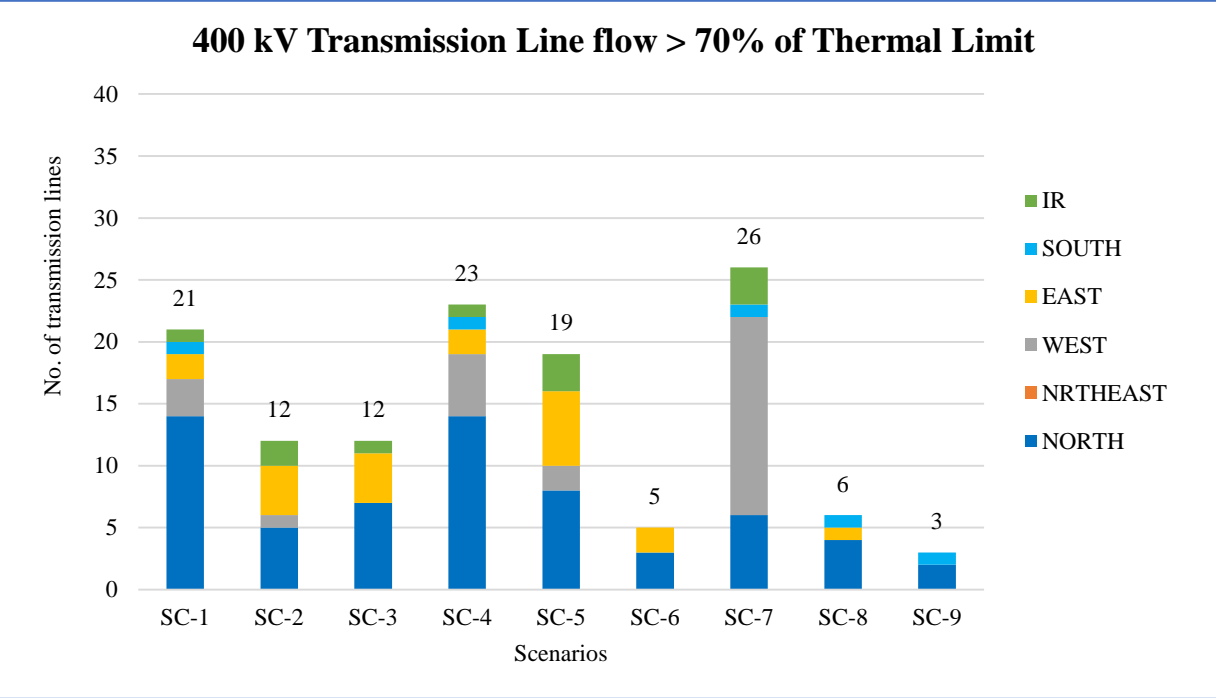


765 kV Line Loading > 3500 MVA under N-1 Contingency



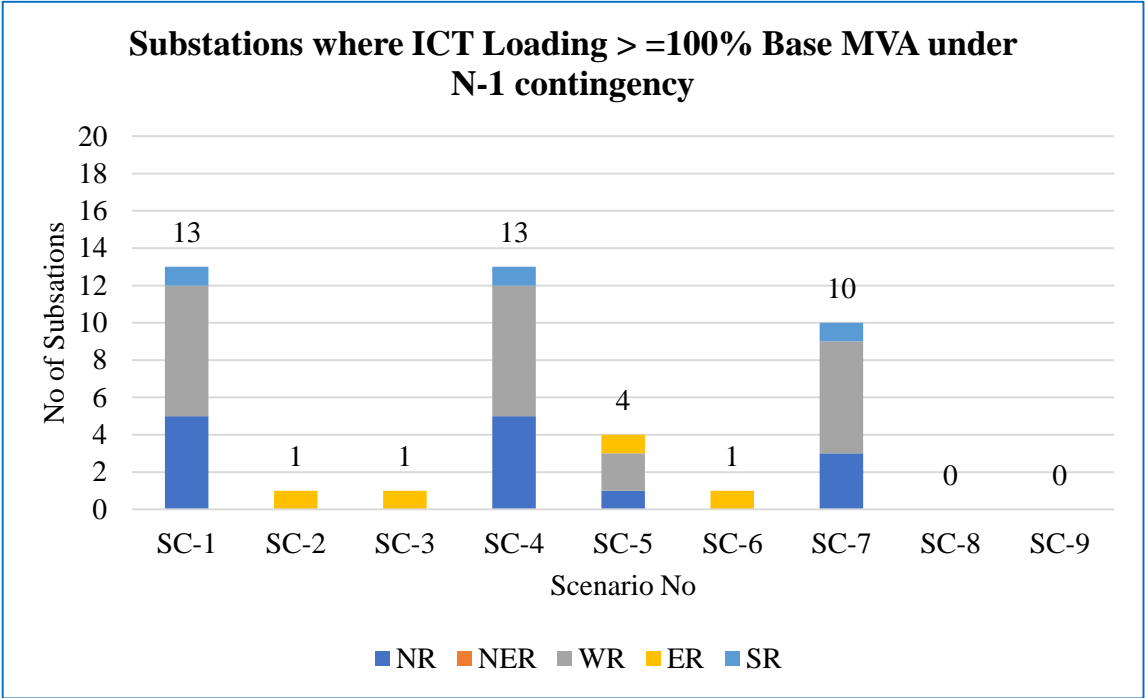
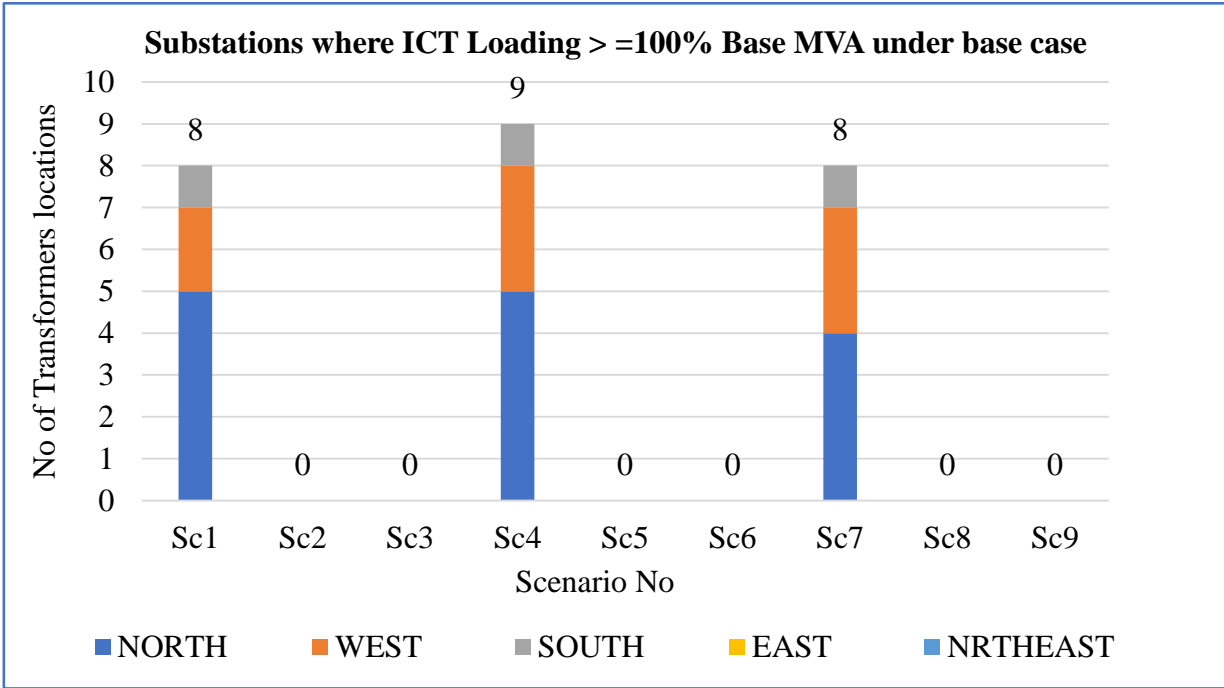
- Maximum loadings occurs during evening peak and solar scenarios.
- Three maximum loaded 765 kV ISTS lines
  - Tamnar-Dharamjaygarh – 4132 MVA
  - Champa-Kotra - 3689 MVA
  - Sasan-Vindhyachal Pool – 3271 MVA

## 400 kV Transmission Line: About 2281 nos. (ISTS and Intra-state)



- Some lines are loaded beyond limit
- Most of case occurring in Solar max scenarios
- Max no. of lines loadings corresponds to Solar max scenarios (i.e. Scenario-7)
- Around 30 distinct lines are loaded beyond thermal limit under N-1 contingency
- Some of these lines are STU lines

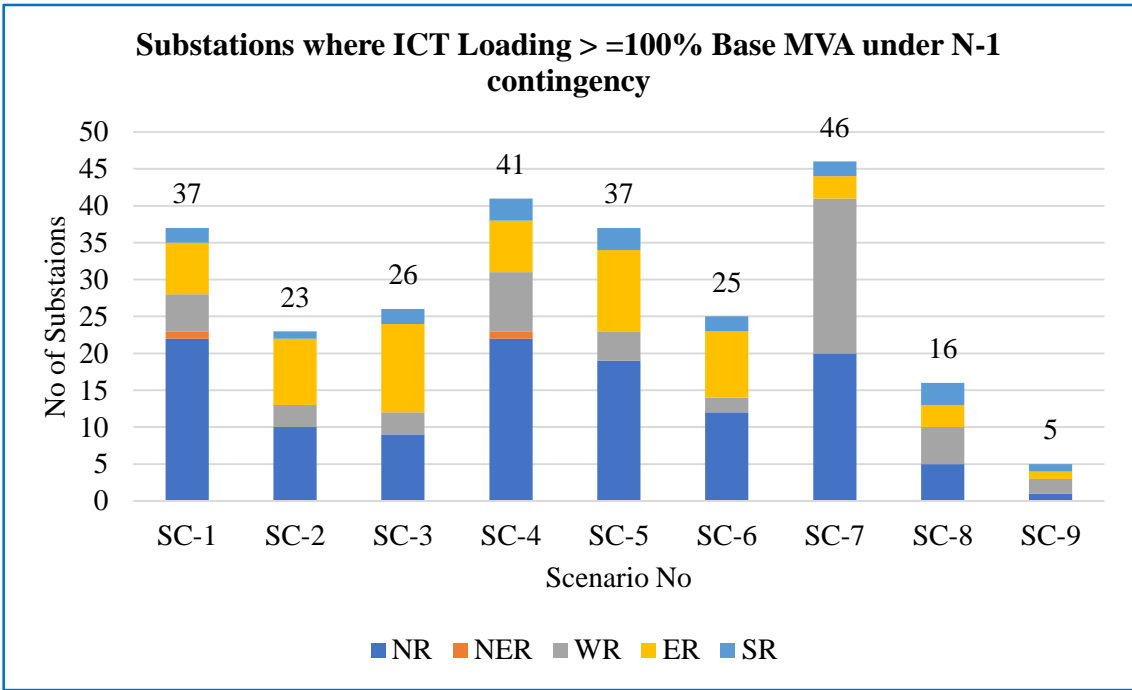
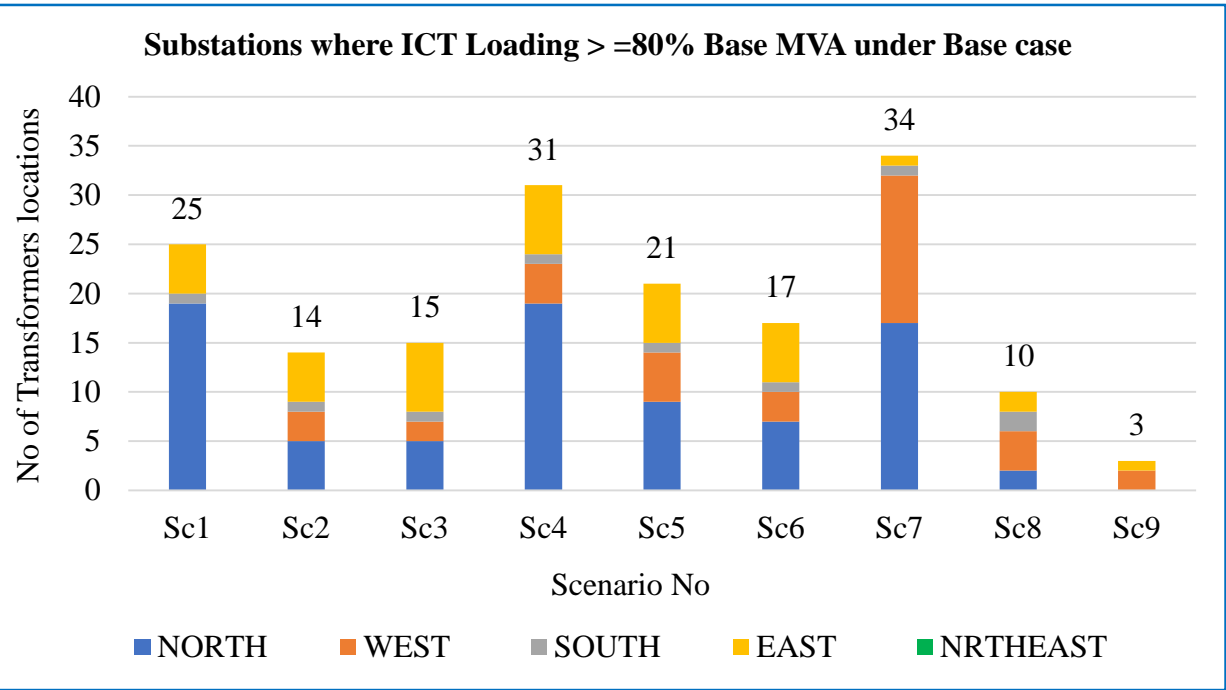
## 765/400kV Transformers: About 294 nos. at 119 nos. of substations(ISTS and Intra-state)



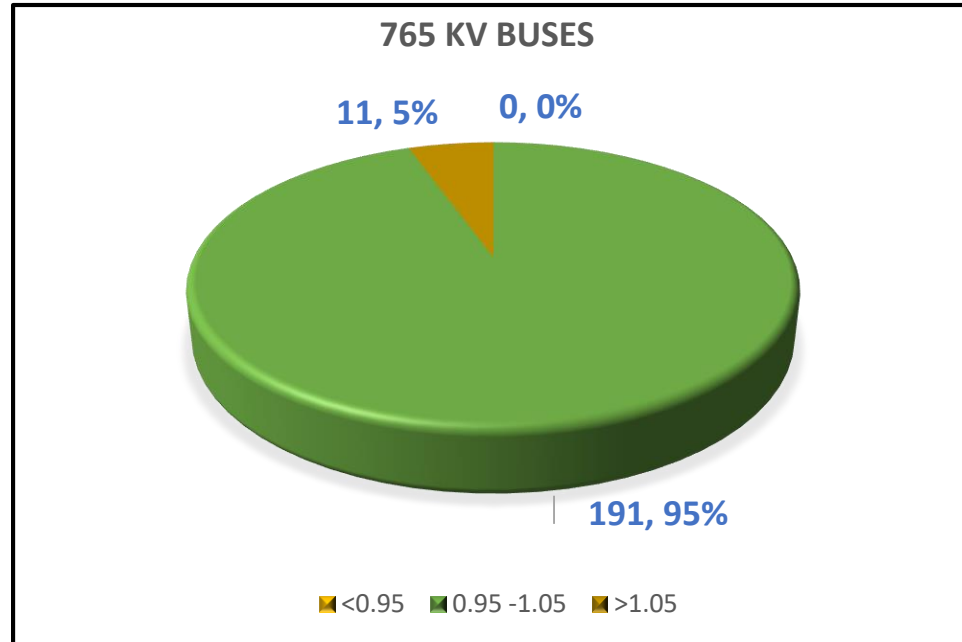
- Loading above limit- solar max scenarios
- S/s located in NR, WR and SR
- Transformers augmentation taken up based on RE potential materialisation//requirement under LTA
- 13 S/s names corresponding to Scenario-4: Bhiwani (PG), Khavda-I, II & III, Padghe(GIS), Navsari(New), Pune(PG), Kurnool, Bhadla-2 & 3, Fatehgarh-II, Bhiwani(SR) & Fatehpur-2



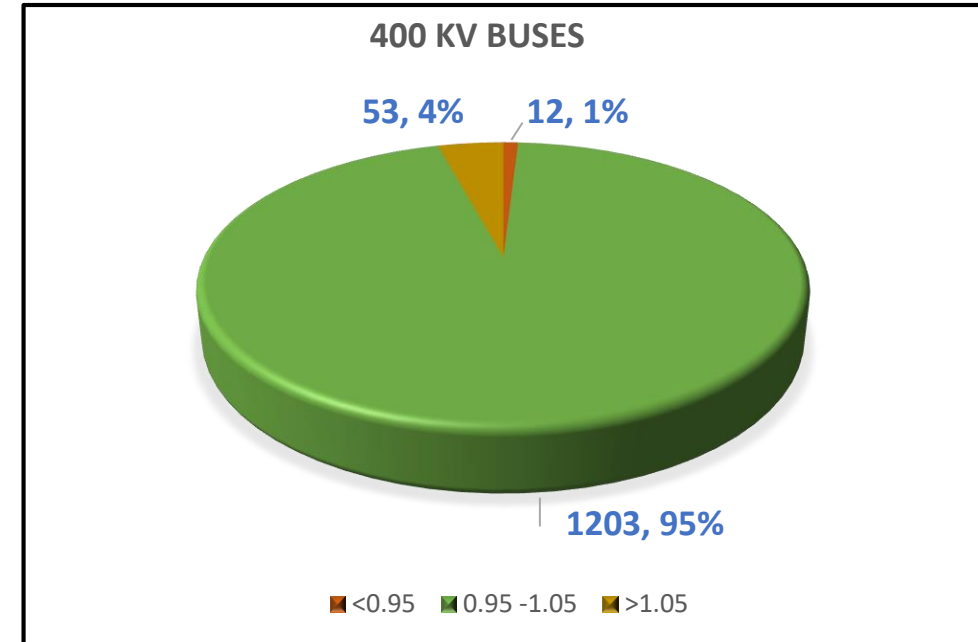
## 400/220kV Transformers: About 1401 nos. at 549 nos. of Substations (ISTS and Intra-state)



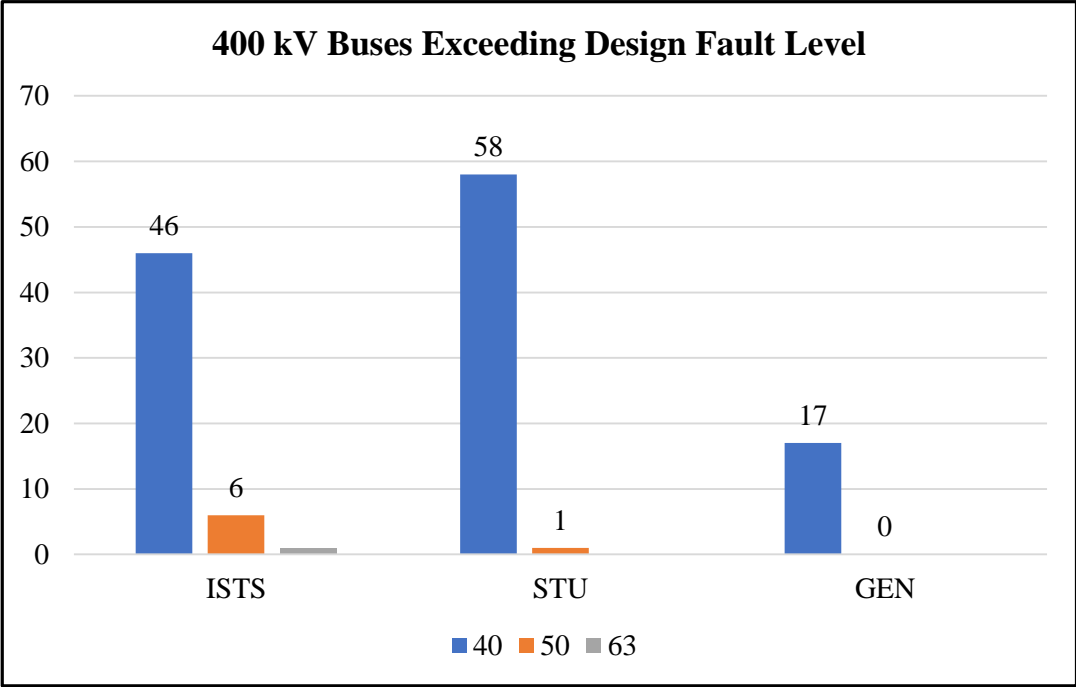
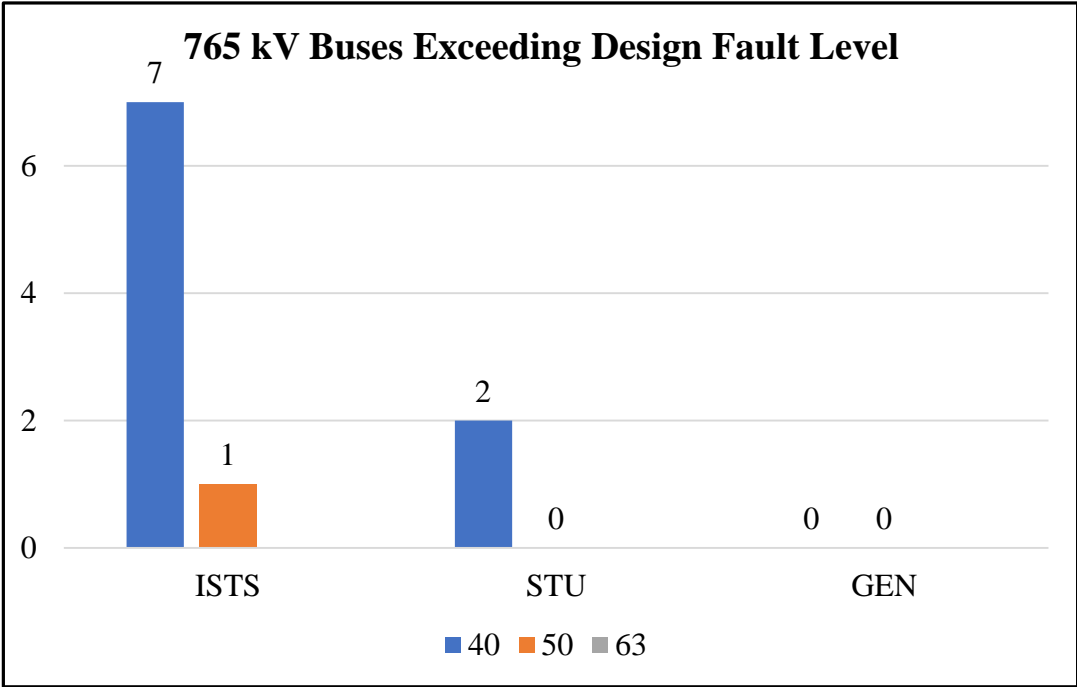
- Transformers loading greater than MVA occurs in solar max and evening peak scenarios
- Non-availability of transformers under N-1 contingency at RE pooling stations
- Generally the cases pertaining to STUs
- Others transformers are being further examined in details for augmentation



- 95% of the bus voltage are within range of 0.95 to 1.05 pu in base case scenarios.
- 11 nodes having voltage beyond 1.05 pu in one of the scenarios.
- No node is having voltage below 0.95 pu



- 95% of the bus voltages are within range of 0.95 to 1.05 pu in base case scenarios.
- 53 nodes having voltage beyond 1.05 pu in one of the scenarios.
- 12 nodes facing low voltage in one of the scenarios.



- **765 kV ISTS**
  - Bilaspur WR (40kA): 44kA
  - Jabalpur Pool (50kA): 52kA
- **765 kV STU**
  - Jaipur (40kA): 41kA

- **400 kV ISTS**
  - Meerut (40kA): 64kA
  - Padghe (50kA): 60kA
- **400 kV STU**
  - Kudus(40kA): 62KA
  - Maheshwaram-TS(50kA): 68kA

## ❑ Northern Region

- Scheme to relieve high loading of 400 kV Bhinmal-Zerda line
- Integration of RE projects from Rajasthan REZ Ph-IV(Bikaner Complex)
- Augmentation of ICT to take care N-1 contingency at RE pooling stations
- Requirement of reactive compensation at various S/s

## ❑ Western Region

- Transmission Network Expansion in Maharashtra to increase its ATC from ISTS (Part-A to C)
- Integration of RE projects in Neemuch, Solapur, Dhule, Kallam potential RE zone
- Scheme for fault level control at Padghe (PG), Padghe (MH), Kudus(MH), Kalwa(MH), Lonikhand-I & II S/s
- ICT Augmentation at Raigarh(PG) S/s
- WRES XXX(Line bypassing at Parli(PG))

## ❑ North Eastern Region

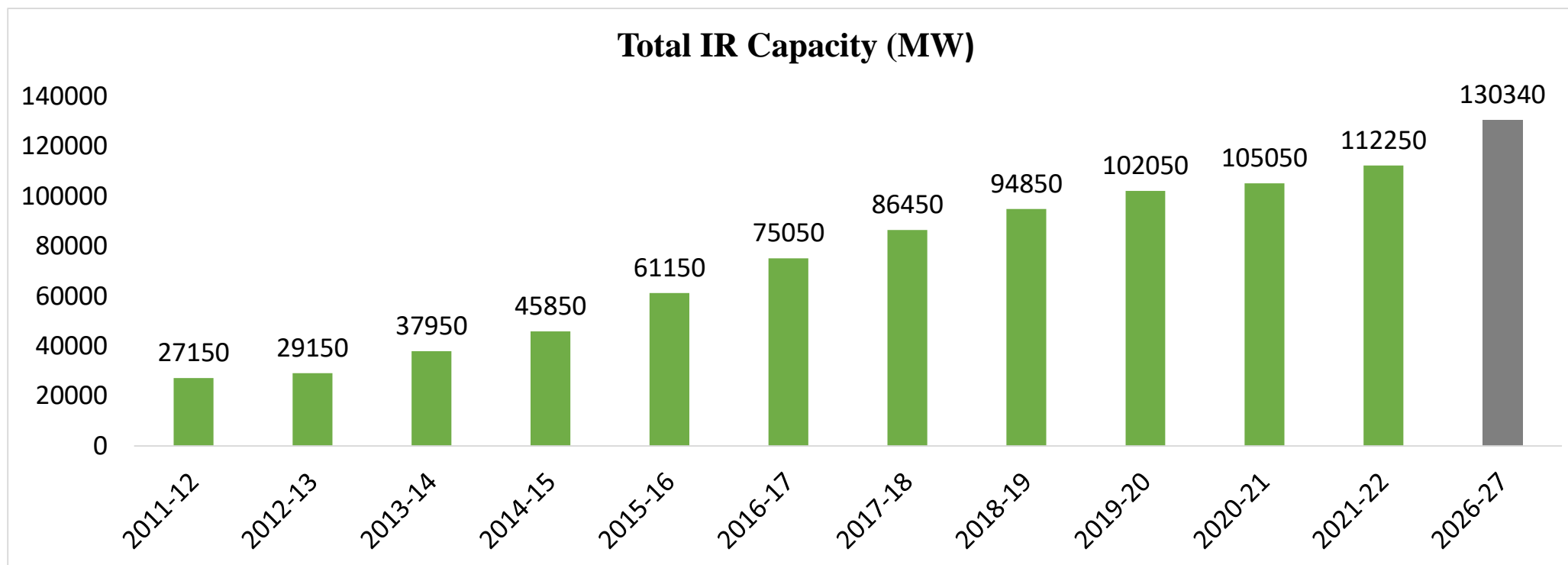
- Reconductoring of few 132 kV Lines

## ❑ Southern Region

- Integration of RE projects from Gadag, Koppal, Davangere, Bijapur and Bellary potential RE zone
- ICT Augmenetation at Pavagada, Arasur, Hosur S/s
- Scheme for fault level control at Maheshwaram (TS), Maheshwaram (PG) and Kurnool(PG) S/s

## ❑ Eastern Region

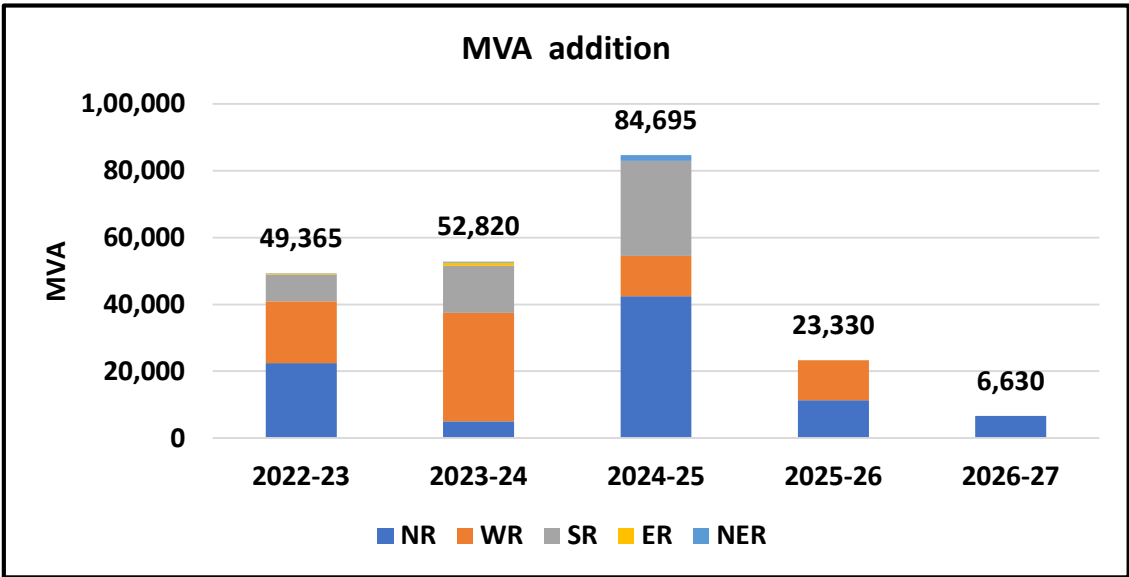
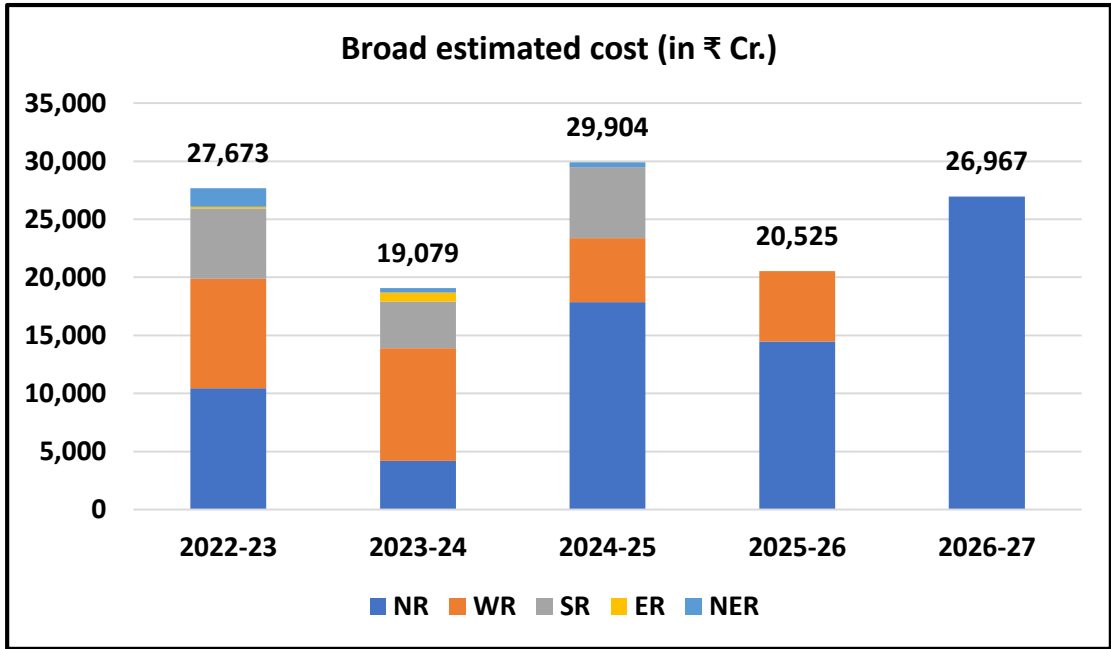
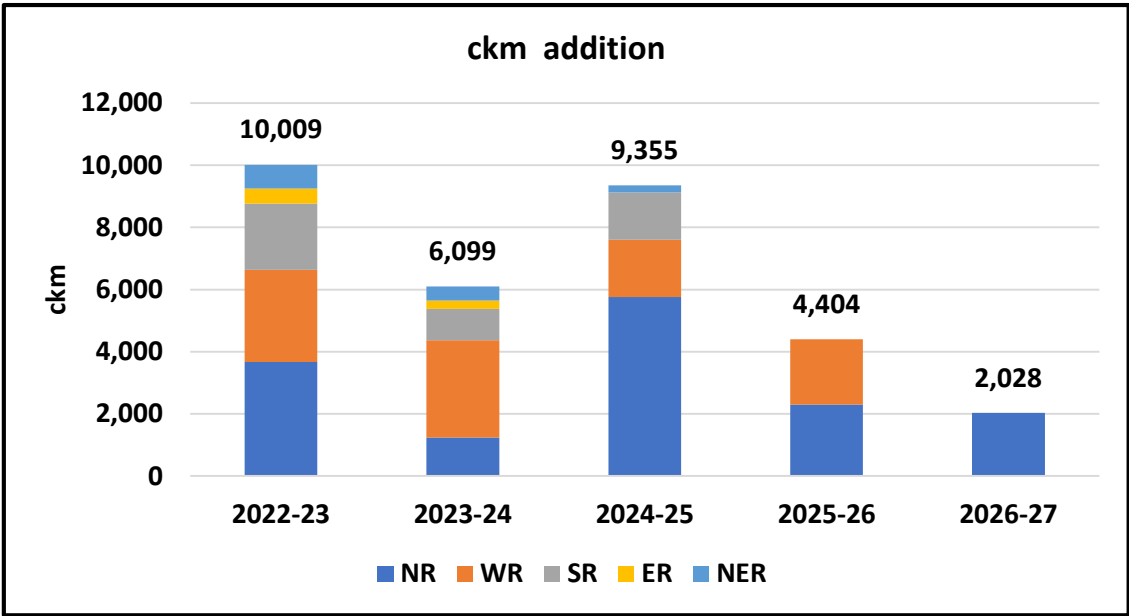
- Establishment of 400/220 kV S/s in DVC area and Joda(Odisha)
- Reconductoring of Jharsuguda-Rourkela 400kV 2XD/c line
- ICT augmentation at Bokaro, Durgapur, Subhashgram
- Scheme for fault level control at Patna (PG) S/s
- Reconductoring of Rangpo-Gangtok 132kV 2XD/c line
- Installation of Bus Reactor at Biharsharif (PG) and Jamshedpur (PG) S/s
- Installation of SLR in both circuits of Maithon – Kahalgaon 400kV D/c line



## IR lines under implementation:

- Warora-Warangal 765kV D/c line : 4200 MW
- LILO of Narendra - Narendra (New) 400kV (Quad) line at Xeldam (Goa) :1600 MW
- Neemuch-Chittorgarh 400 kV D/c :1600 MW
- Jypore-Jagdalpur 400 kV D/c : 1600 MW
- Narendra-Pune 765 kV D/c : 4200 MW
- Chittorgarh-Indore 765 kV D/c : 4200 MW
- Reconductoring of Siliguri - Bongaigaon 400kV D/c & Birpara/Alipurduar - Salakati 220kV D/c : 690 MW

# ISTS Expansion upto 2026-27: ckm, MVA addition and Broad estimated cost (in ₹ Cr.)189



Total Ckm addition till 2026-27: 31,895

Total MVA addition till 2026-27: 2,16,840

Total estimated cost (in ₹ Cr.): 1,24,148



- Studies has been carried out for 2026-27 timeframe
  - Peak Demand: 299 GW (19<sup>th</sup> EPS)
  - Total Envisaged Installed Capacity: 568 GW (RE : 225 GW)

Report on the findings is published in Mar'22

## ➤ Major Observations

- **Load Generation Balance (LGB):** Surplus generation of about 33 GW (with 40% thermal technical minimum in Aug'26) & 59 GW (with 55% thermal technical minimum in June'26) .
  - **Critical loading of Lines/ICTs:** Some over loadings observed. Regular analysis and remedial actions are taken up
  - **Fault level at STU and ISTS Stations:** Measures like splitting of bus, series reactor, rearrangements of lines etc. to be taken by respective entities
  - **Violation of Voltage:** Adequate reactive power control devices to be planned and installed mainly at STU systems
- Simultaneous development/strengthening of ISTS as well as Intra state network is essential for Reliable and Economical Network.

***Thank You !!!***



# भारत का राजपत्र The Gazette of India

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CG-DL-E-15042023-245170

असाधारण  
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)  
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित  
PUBLISHED BY AUTHORITY

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No. 1644]

NEW DELHI, THURSDAY, APRIL 13, 2023/CHAITRA 23, 1945

विद्युत मंत्रालय

अधिसूचना

नई दिल्ली, 13 अप्रैल, 2023

**का.आ. 1723(अ).**—केंद्र सरकार, विद्युत अधिनियम, 2003 (2003 की संख्या 36) की धारा 63 के अंतर्गत परिचालित दिशा-निर्देशों के पैरा 3 के उप-पैरा 3.2 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, पारेषण संबंधी राष्ट्रीय समिति की 11वीं बैठक की सिफारिशों पर, पारेषण स्कीमों के लिए पारेषण स्कीमों के नाम के सामने दर्शाए अनुसार निम्नलिखित बोली-प्रक्रिया समन्वयकों (बीपीसी) की नियुक्ति करती है:

क्र.सं.	पारेषण स्कीमों के नाम एवं कार्यक्षेत्र	बोली प्रक्रिया समन्वयकर्ता						
1	<p>चरण-III भाग क के अंतर्गत खावड़ा आरई पार्क से अतिरिक्त 7 गीगावॉट आरई विद्युत की निकासी के लिए पारेषण प्रणाली</p> <p><b>कार्य-क्षेत्र:</b></p> <table border="1"> <thead> <tr> <th>क्रम सं.</th><th>पारेषण स्कीम का कार्य-क्षेत्र</th><th>क्षमता/कि. मी.</th></tr> </thead> <tbody> <tr> <td>1</td><td>765 केवी, 2x330 एमवीएआर बस रिएक्टरों के साथ 765 केवी हलवड स्विचिंग स्टेशन की स्थापना</td><td> <ul style="list-style-type: none"> <li>330 एमवीएआर, 765 केवी बस रिएक्टर - 2 (7x110 एमवीएआर सिंगल फेज रिएक्टर यूनिट जिसमें 1 अतिरिक्त यूनिट शामिल है)</li> <li>765 केवी बस रिएक्टर वे - 2</li> <li>765 केवी लाइन वे - 6 (क्रम</li> </ul> </td></tr> </tbody> </table> <p><b>भावी कार्य-क्षेत्र:</b></p> <p>निम्नलिखित के लिए जगह</p> <ul style="list-style-type: none"> <li>वे सहित 765/400 केवी आईसीटी - 6</li> </ul>	क्रम सं.	पारेषण स्कीम का कार्य-क्षेत्र	क्षमता/कि. मी.	1	765 केवी, 2x330 एमवीएआर बस रिएक्टरों के साथ 765 केवी हलवड स्विचिंग स्टेशन की स्थापना	<ul style="list-style-type: none"> <li>330 एमवीएआर, 765 केवी बस रिएक्टर - 2 (7x110 एमवीएआर सिंगल फेज रिएक्टर यूनिट जिसमें 1 अतिरिक्त यूनिट शामिल है)</li> <li>765 केवी बस रिएक्टर वे - 2</li> <li>765 केवी लाइन वे - 6 (क्रम</li> </ul>	पीएफसी कंसल्टिंग लि.
क्रम सं.	पारेषण स्कीम का कार्य-क्षेत्र	क्षमता/कि. मी.						
1	765 केवी, 2x330 एमवीएआर बस रिएक्टरों के साथ 765 केवी हलवड स्विचिंग स्टेशन की स्थापना	<ul style="list-style-type: none"> <li>330 एमवीएआर, 765 केवी बस रिएक्टर - 2 (7x110 एमवीएआर सिंगल फेज रिएक्टर यूनिट जिसमें 1 अतिरिक्त यूनिट शामिल है)</li> <li>765 केवी बस रिएक्टर वे - 2</li> <li>765 केवी लाइन वे - 6 (क्रम</li> </ul>						

	<ul style="list-style-type: none"> <li>स्विचेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे - 6</li> <li>बे सहित 765 केवी बस रिएक्टर: 2</li> <li>765 केवी सेक्शनलाइज़र बे: 1 सेट</li> <li>स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 12</li> <li>बे सहित 400/220 केवी आईसीटी - 8</li> <li>बे सहित 400 केवी बस रिएक्टर: 2</li> <li>400 केवी सेक्शनलाइज़र बे: 1 सेट</li> <li>220 केवी लाइन बे: 16</li> <li>220 केवी सेक्शनलाइज़र बे: 2 सेट</li> <li>220 केवी वीसी और टीवीसी: 3</li> <li>संबद्ध बे के साथ एमएससी (2x125 एमवीएआर) और एमएसआर (1x125 एमवीएआर) सहित स्टेटकॉम (<math>\pm 300</math> एमवीएआर): 1</li> </ul>	सं.2 और 5 की लाइनों के लिए)	
2	केपीएस2 (जीआईएस) - हलवड़ 765 केवी डी/सी लाइन	रूट की लंबाई: 220 किमी	
3	केपीएस2- हलवड़ 765 केवी डी/सी लाइन के दोनों सिरों पर प्रत्येक सर्किट पर 240 एमवीएआर स्विचेबल लाइन रिएक्टर	<ul style="list-style-type: none"> <li>240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 4 [केपीएस2 (जीआईएस) में 2 और हलवड़ में 2]</li> <li>765 केवी लाइन रिएक्टरों के लिए स्विचिंग उपकरण - 4 [केपीएस 2 (जीआईएस) पर 2 और हलवड़ में 2]</li> <li>80 एमवीएआर, 765 केवी, केपीएस2 (जीआईएस) में सिंगल फेज अतिरिक्त रिएक्टर यूनिट</li> <li>हलवड़ सब-स्टेशन में 80 एमवीएआर, 765 केवी, सिंगल फेज अतिरिक्त रिएक्टर यूनिट</li> </ul>	
4	केपीएस 2 - हलवड़ 765 केवी डी/सी लाइन की समाप्ति के लिए केपीएस2 पर 2 765 केवी जीआईएस लाइन बे	<ul style="list-style-type: none"> <li>765 केवी लाइन बे (जीआईएस) - 2 [केपीएस2 (जीआईएस) सिरे के लिए]</li> </ul>	
5	हलवड़ में लकड़िया-अहमदाबाद 765 केवी डी/सी लाइन का एलआईएलओ	एलआईएलओ रूट की लंबाई: 30 किमी (120 सीकेएम)	
<b>टिप्पणी:</b> <ol style="list-style-type: none"> <li>केपीएस2 का विकासकर्ता केपीएस2 (जीआईएस) - हलवड़ 765 केवी डी/सी लाइन की समाप्ति के लिए स्विचेबल लाइन रिएक्टरों के साथ-साथ 2 765 केवीलाइन बे के कार्यान्वयन के लिए जगह प्रदान करेगा।</li> <li><b>कार्यान्वयन समय-सीमा:</b> एसपीवी अंतरण की तारीख से 24 माह</li> </ol>			

2.	<p>चरण-III भाग ख के अंतर्गत खावड़ा आरई पार्क से अतिरिक्त 7 गीगावॉट आरई विद्युत की निकासी के लिए पारेषण प्रणाली</p> <p><b>कार्य-क्षेत्र</b></p> <table border="1"> <thead> <tr> <th>क्रम सं.</th><th>पारेषण स्कीम का कार्य-क्षेत्र</th><th>क्षमता/कि.मी.</th></tr> </thead> <tbody> <tr> <td>1</td><td> <p>वातमन के निकट 2x330 एमवीएआर, 765 केवी बस रिएक्टरों के साथ 765 केवी स्विचिंग स्टेशन की स्थापना</p> <p><b>भावी कार्य-क्षेत्र</b></p> <p>निम्नलिखित के लिए जगह</p> <ul style="list-style-type: none"> <li>• बे सहित 765/400 केवी आईसीटी - 6</li> <li>• स्विचेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे - 6</li> <li>• बे के साथ 765 केवी बस रिएक्टर: 2</li> <li>• 765 केवी सेक्शनलाइजर बे: 1-सेट</li> <li>• स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 12</li> <li>• बे सहित 400/220 केवी आईसीटी-8</li> <li>• बे सहित 400 केवी बस रिएक्टर: 2</li> <li>• 400 केवी सेक्शनलाइज़ेशन बे: 1-सेट</li> <li>• 220 केवी लाइन बे: 16</li> <li>• 220 केवी सेक्शनलाइज़ेशन बे: 2 सेट</li> <li>• 220 केवी वीसी और टीवीसी: 3</li> <li>• संबद्ध बे सहित एमएससी (2x125 एमवीएआर) और एमएसआर (1x125 एमवीएआर) के साथ स्टेटकॉम (±300 एमवीएआर): 1</li> </ul> </td><td> <ul style="list-style-type: none"> <li>• 330 एमवीएआर 765 केवी बस रिएक्टर-2 (लाइन/बस रिएक्टर के लिए 1 अतिरिक्त यूनिट सहित 7x110 एमवीएआर सिंगल फेज रिएक्टर यूनिटें)</li> <li>• 765 केवी बस रिएक्टर बे - 2</li> <li>• 765 केवी लाइन बे - 8 (क्रम 2, 5 और 7 की लाइनों के लिए)</li> </ul> </td></tr> <tr> <td>2</td><td>हलवड़-वातमन 765 केवी डी/सी लाइन</td><td>रूट की लंबाई: 170 km</td></tr> <tr> <td>3</td><td>हलवड़-वातमन 765 केवी डी/सी लाइन के वातमन सिरे पर प्रत्येक सर्किट पर 1x330 एमवीएआर स्विचेबल लाइन रिएक्टर</td><td> <ul style="list-style-type: none"> <li>• 330 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 (6 x 110 एमवीएआर सिंगल फेज रिएक्टर यूनिट) [110 एमवीएआर सिंगल फेज अतिरिक्त बस रिएक्टर यूनिट को लाइन रिएक्टर के अतिरिक्त के रूप में प्रयोग किया जाएगा]</li> <li>• 765 केवी लाइन रिएक्टर के लिए स्विचिंग उपकरण - 2</li> </ul> </td></tr> <tr> <td>4</td><td>हलवड़-वातमन 765 केवी डी/सी लाइन की समाप्ति के लिए हलवड़ सिरे पर 2 765 केवी लाइन बे</td><td> <ul style="list-style-type: none"> <li>• 765 केवी लाइन बे- 2 (हलवड़ सिरे के लिए)</li> </ul> </td></tr> </tbody> </table>	क्रम सं.	पारेषण स्कीम का कार्य-क्षेत्र	क्षमता/कि.मी.	1	<p>वातमन के निकट 2x330 एमवीएआर, 765 केवी बस रिएक्टरों के साथ 765 केवी स्विचिंग स्टेशन की स्थापना</p> <p><b>भावी कार्य-क्षेत्र</b></p> <p>निम्नलिखित के लिए जगह</p> <ul style="list-style-type: none"> <li>• बे सहित 765/400 केवी आईसीटी - 6</li> <li>• स्विचेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे - 6</li> <li>• बे के साथ 765 केवी बस रिएक्टर: 2</li> <li>• 765 केवी सेक्शनलाइजर बे: 1-सेट</li> <li>• स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 12</li> <li>• बे सहित 400/220 केवी आईसीटी-8</li> <li>• बे सहित 400 केवी बस रिएक्टर: 2</li> <li>• 400 केवी सेक्शनलाइज़ेशन बे: 1-सेट</li> <li>• 220 केवी लाइन बे: 16</li> <li>• 220 केवी सेक्शनलाइज़ेशन बे: 2 सेट</li> <li>• 220 केवी वीसी और टीवीसी: 3</li> <li>• संबद्ध बे सहित एमएससी (2x125 एमवीएआर) और एमएसआर (1x125 एमवीएआर) के साथ स्टेटकॉम (±300 एमवीएआर): 1</li> </ul>	<ul style="list-style-type: none"> <li>• 330 एमवीएआर 765 केवी बस रिएक्टर-2 (लाइन/बस रिएक्टर के लिए 1 अतिरिक्त यूनिट सहित 7x110 एमवीएआर सिंगल फेज रिएक्टर यूनिटें)</li> <li>• 765 केवी बस रिएक्टर बे - 2</li> <li>• 765 केवी लाइन बे - 8 (क्रम 2, 5 और 7 की लाइनों के लिए)</li> </ul>	2	हलवड़-वातमन 765 केवी डी/सी लाइन	रूट की लंबाई: 170 km	3	हलवड़-वातमन 765 केवी डी/सी लाइन के वातमन सिरे पर प्रत्येक सर्किट पर 1x330 एमवीएआर स्विचेबल लाइन रिएक्टर	<ul style="list-style-type: none"> <li>• 330 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 (6 x 110 एमवीएआर सिंगल फेज रिएक्टर यूनिट) [110 एमवीएआर सिंगल फेज अतिरिक्त बस रिएक्टर यूनिट को लाइन रिएक्टर के अतिरिक्त के रूप में प्रयोग किया जाएगा]</li> <li>• 765 केवी लाइन रिएक्टर के लिए स्विचिंग उपकरण - 2</li> </ul>	4	हलवड़-वातमन 765 केवी डी/सी लाइन की समाप्ति के लिए हलवड़ सिरे पर 2 765 केवी लाइन बे	<ul style="list-style-type: none"> <li>• 765 केवी लाइन बे- 2 (हलवड़ सिरे के लिए)</li> </ul>	पीएफसी कंसल्टिंग लि.
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5	वातमन 765 केवी स्विचिंग स्टेशन पर लकाडिया-वडोदरा 765 केवी डी/सी लाइन का एलआईएलओ	एलआईएलओ रूट की लंबाई: 10 कि.मी. (40 सीकेएम)
6	लकाडिया-वातमन 765 केवी डी/सी लाइन के वातमन सिरे पर प्रत्येक सर्किट पर एनजीआर बायपास व्यवस्था के साथ 240 एमवीएआर 765 केवी स्विचेबल लाइन रिएक्टर	<ul style="list-style-type: none"> <li>• 240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 (7x 80 एमवीएआर सिंगल फेज रिएक्टर यूनिट जिसमें 1 अतिरिक्त यूनिट शामिल है)</li> <li>• 765 केवी लाइन रिएक्टरों के लिए स्विचिंग उपकरण - 2</li> </ul>
7	वातमन स्विचिंग स्टेशन - नवसारी (नई) (जीआईएस) 765 केवी डी/सी लाइन	रूट की लंबाई: 200 कि.मी.
8	वातमन स्विचिंग स्टेशन- नवसारी (नई) (जीआईएस) 765 केवी डी/सी लाइन के नवसारी (नई) (जीआईएस) सिरे पर प्रत्येक सर्किट पर 330 एमवीएआर स्विचेबल लाइन रिएक्टर	<ul style="list-style-type: none"> <li>• 330 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 (6 x 110 एमवीएआर सिंगल फेज रिएक्टर यूनिट) [पीजीसीआईएल द्वारा कार्यान्वित की जा रही नवसारी में 110 एमवीएआर अतिरिक्त रिएक्टर यूनिट, जिसका अतिरिक्त के रूप में प्रयोग किया जाएगा।]</li> <li>• 765 केवी लाइन रिएक्टरों के लिए स्विचिंग उपकरण - 2</li> </ul>
9	वातमान स्विचिंग स्टेशन - नवसारी (नई) (जीआईएस) 765 केवी डी/सी लाइन की समाप्ति के लिए नवसारी (नई) में 2 765 केवी जीआईएस लाइन बे	<ul style="list-style-type: none"> <li>• 765 केवी लाइन बे (जीआईएस) - 2 (नवसारी (नई) सिरे के लिए 2)</li> </ul>

**टिप्पणी:**

i. हलवड सब-स्टेशन के विकासकर्ता हलवड-वातमन 765 केवी डी/सी लाइन की समाप्ति के लिए 2 765 केवी लाइन बे के कार्यान्वयन के लिए जगह प्रदान करेंगे।

ii. नवसारी (नई) (जीआईएस) सब-स्टेशन के विकासकर्ता, वातमन स्विचिंग स्टेशन - नवसारी (नई) (जीआईएस) 765 केवी डी/सी लाइन की समाप्ति के लिए स्विचेबल लाइन रिएक्टरों सहित 2 765 केवी लाइन बे के कार्यान्वयन के लिए जगह प्रदान करेंगे। इसके साथ-साथ, नवसारी (नई) (जीआईएस) सब-स्टेशन के विकासकर्ता, वातमान स्विचिंग स्टेशन-नवसारी (नई) (जीआईएस) 765 केवी डी/सी लाइन के नवसारी (नई) (जीआईएस) सिरे में प्रत्येक सर्किट पर 330 एमवीएआर एसएलआर के लिए 110 एमवीएआर सिंगल फेज अतिरिक्त रिएक्टर यूनिट के उपयोग की अनुमति देंगे।

iii. डेड ब्रेकर स्कीम में व्यास (जीआईएस) को पूरा करने के लिए आवश्यक बे (बेज़) को भी टीएसपी द्वारा निष्पादित किया जाएगा।

iv. वातमन 765 केवी स्विचिंग स्टेशन पर लकाडिया-वडोदरा 765 केवी डी/सी लाइन के एलआईएलओ के बाद, वातमान 765 केवी स्विचिंग स्टेशन पर लकाडिया - वडोदरा 765 केवी डी/सी लाइन के एलआईएलओ के बाद लकाडिया और वडोदरा सिरे पर मुख्य लाइन ब्रेकर के

	साथ-साथ स्विचेबल लाइन रिएक्टर की इंटर-ट्रिपिंग के लिए लॉजिक का लाइन के वर्तमान स्वामी (अर्थात मैसर्स एलवीटीपीएल) द्वारा सक्षमीकरण किया जाएगा। <b>v. कार्यान्वयन समय-सीमा:</b> एसपीवी अंतरण की तारीख से 24 माह													
<b>3</b>	<p>धुले 2 गीगावॉट आरईजेड से विद्युत की निकासी के लिए पारेषण स्कीम</p> <p><b>कार्य-क्षेत्र</b></p> <table border="1"> <thead> <tr> <th>क्रम सं.</th><th>पारेषण स्कीम का कार्य-क्षेत्र</th><th>क्षमता/कि.मी.</th></tr> </thead> <tbody> <tr> <td>1.</td><td> <p>धुले के पास 2x125 एमवीएआर (420 केवी) बस रिएक्टरों सहित 4x500 एमवीए, 400/220 केवी पूर्लिंग स्टेशन की स्थापना।</p> <p><b>भावी प्रावधान</b></p> <p>निम्नलिखित के लिए जगह</p> <ul style="list-style-type: none"> <li>स्विचेबल लाइन रिएक्टर सहित 400 केवी लाइन बे - 8</li> <li>बे सहित 400/220 केवी आईसीटी-6</li> <li>बे सहित 400 केवी बस रिएक्टर: 2</li> <li>400 केवी बस सेक्शनलाइजेशन बे: 1-सेट</li> <li>220 केवी लाइन बे: 9</li> <li>220 केवी सेक्शनलाइजेशन बे: 1 सेट</li> <li>220 केवी वीसी और टीवीसी: 1</li> </ul> </td><td> <ul style="list-style-type: none"> <li>400/220 केवी, 500 एमवीए आईसीटी - 4</li> <li>400 केवी आईसीटी बे - 4</li> <li>220 केवी आईसीटी बे - 4 (220 केवी बस सेक्शन 1 पर 2 और 220 केवी बस सेक्शन 2 पर 2)</li> <li>400 केवी लाइन बे - 2</li> <li>125 एमवीएआर, 420 केवी बस रिएक्टर - 2</li> <li>बस रिएक्टर बे: 2</li> <li>220 केवी बस कपलर बे- 2</li> <li>220 केवी ट्रांसफर बस कपलर (टीबीसी) बे - 2</li> <li>220 केवी लाइन बे - 7 (आरई इंटरकनेक्शन के लिए जिसमें से 4 220 केवी बस सेक्शन 1 और 3 220 केवी बस सेक्शन 2 पर होगा)</li> <li>220 केवी बस सेक्शनलाइज़र - 1 सेट</li> </ul> </td></tr> <tr> <td>2.</td><td>धुले पीएस - धुले (बीडीटीसीएल) 400 केवी डी/सी लाइन (क्वाड एसीएसआर/ एएएसी/ एएल59 मूस समतुल्य)</td><td>रूट की लंबाई: 60 कि.मी.</td></tr> <tr> <td>3.</td><td>धुले पीएस-धुले (बीडीटीसीएल) 400केवी डी/सी लाइनके लिए धुले (बीडीटीसीएल) में 2 400केवी लाइन बे</td><td>400 केवी लाइन बे- 2</td></tr> </tbody> </table> <p><b>टिप्पणी:</b></p> <p>i. बीडीटीसीएल, (i) धुले पीएस-धुले (बीडीटीसीएल) 400 केवी डी/सी लाइन की समाप्ति के लिए 2 400 केवी लाइन बे के लिए जगह प्रदान करेगा।</p> <p>(ii) कार्यान्वयन समय-सीमा: एसपीवी अंतरण की तारीख से 24 माह</p>	क्रम सं.	पारेषण स्कीम का कार्य-क्षेत्र	क्षमता/कि.मी.	1.	<p>धुले के पास 2x125 एमवीएआर (420 केवी) बस रिएक्टरों सहित 4x500 एमवीए, 400/220 केवी पूर्लिंग स्टेशन की स्थापना।</p> <p><b>भावी प्रावधान</b></p> <p>निम्नलिखित के लिए जगह</p> <ul style="list-style-type: none"> <li>स्विचेबल लाइन रिएक्टर सहित 400 केवी लाइन बे - 8</li> <li>बे सहित 400/220 केवी आईसीटी-6</li> <li>बे सहित 400 केवी बस रिएक्टर: 2</li> <li>400 केवी बस सेक्शनलाइजेशन बे: 1-सेट</li> <li>220 केवी लाइन बे: 9</li> <li>220 केवी सेक्शनलाइजेशन बे: 1 सेट</li> <li>220 केवी वीसी और टीवीसी: 1</li> </ul>	<ul style="list-style-type: none"> <li>400/220 केवी, 500 एमवीए आईसीटी - 4</li> <li>400 केवी आईसीटी बे - 4</li> <li>220 केवी आईसीटी बे - 4 (220 केवी बस सेक्शन 1 पर 2 और 220 केवी बस सेक्शन 2 पर 2)</li> <li>400 केवी लाइन बे - 2</li> <li>125 एमवीएआर, 420 केवी बस रिएक्टर - 2</li> <li>बस रिएक्टर बे: 2</li> <li>220 केवी बस कपलर बे- 2</li> <li>220 केवी ट्रांसफर बस कपलर (टीबीसी) बे - 2</li> <li>220 केवी लाइन बे - 7 (आरई इंटरकनेक्शन के लिए जिसमें से 4 220 केवी बस सेक्शन 1 और 3 220 केवी बस सेक्शन 2 पर होगा)</li> <li>220 केवी बस सेक्शनलाइज़र - 1 सेट</li> </ul>	2.	धुले पीएस - धुले (बीडीटीसीएल) 400 केवी डी/सी लाइन (क्वाड एसीएसआर/ एएएसी/ एएल59 मूस समतुल्य)	रूट की लंबाई: 60 कि.मी.	3.	धुले पीएस-धुले (बीडीटीसीएल) 400केवी डी/सी लाइनके लिए धुले (बीडीटीसीएल) में 2 400केवी लाइन बे	400 केवी लाइन बे- 2	आरईसी पावर डेवलपमेंट एंड कंसल्टेंसी लिमिटेड
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	<p>साथ 2x1500 एमवीए, 765/400 केवी, 2x500 एमवीए, 400/220 केवी सब-स्टेशन की स्थापना</p> <p><b>भावी प्रावधान:</b></p> <p>निम्नलिखित के लिए जगह</p> <ul style="list-style-type: none"> <li>• बे सहित 765/400 केवी आईसीटी- 4</li> <li>• स्विचेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे -8</li> <li>• बे सहित 765 केवी बस रिएक्टर: 3</li> <li>• 765 केवी सेक्शनलाइज़र: 1 सेट</li> <li>• स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 10</li> <li>• बे सहित 400/220 केवी आईसीटी-6</li> <li>• बे सहित 400 केवी बस रिएक्टर- 3</li> <li>• 400 केवी सेक्शनलाइज़ेशन बे: 1 सेट</li> <li>• 220 केवी लाइन बे: 10</li> <li>• 220 केवी सेक्शनलाइज़ेशन बे: 1 सेट</li> <li>• 220 केवी वीसी और टीबीसी: 1</li> </ul>	<p>फेज यूनिट जिसमें एक अतिरिक्त आईसीटी यूनिट शामिल है)</p> <ul style="list-style-type: none"> <li>• 400/220 केवी, 500 एमवीए आईसीटी - 2</li> <li>• 765 केवी आईसीटी बे - 2</li> <li>• 400 केवी आईसीटी बे - 4</li> <li>• 220 केवी आईसीटी बे - 2</li> <li>• 765 केवी लाइन बे - 2</li> <li>• 330 एमवीएआर, 765 केवी बस रिएक्टर - 1 (4x110 एमवीएआर सिंगल फेज यूनिट जिसमें एक अतिरिक्त यूनिट शामिल है)</li> <li>• 125 एमवीएआर, 420 केवी बस रिएक्टर - 1</li> <li>• 765 केवी बस रिएक्टर बे: 1</li> <li>• 400 केवी बस रिएक्टर बे: 1</li> <li>• 220 केवी बस कपलर बे- 2</li> <li>• 220 केवी ट्रांसफर बस कपलर (टीबीसी) बे - 2</li> <li>• 220 केवी लाइन बे - 8 (220 केवी लाइन के लिए एमपीपीटीसीएल द्वारा कार्यान्वित किया जाएगा#)</li> <li>• 220 केवी बस सेक्शनलाइज़र- 1 सेट</li> </ul>	
2	करेरा में सतना-ग्वालियर 765 केवी एस/सी लाइन का एलआईएलओ	एलआईएलओ रूट की लंबाई: 70 कि.मी (140 सीकेएम)	
3	करेरा-सतना 765 केवी लाइन के करेरा सिरे पर 1x330 एमवीएआर, स्विचेबल लाइन रिएक्टर की संस्थापना	स्विचिंग उपकरण के साथ 765 केवी, 330 एमवीएआर एसएलआर - 1 (3x110 एमवीएआर) [बस रिएक्टर के लिए 110 एमवीएआर सिंगल फेज रिएक्टर यूनिट को लाइन रिएक्टर के अतिरिक्त के रूप में भी इस्तेमाल किया जाएगा]	

#करेरा में बीना-दतिया 220केवी डी/सी लाइन के दोनों सर्किटों का एलआईएलओ, करेरा तक पिछोरे 220केवी के लिए 220 केवी दतिया- बीना लाइन के एलआईएलओ भाग का तथा करेरा औरकरेरा - सियोंधा 220केवी डी/सी लाइन तक विस्तार

	<b>टिप्पणी:</b> <b>कार्यान्वयन समय-सीमा:</b> एसपीवी अंतरण की तारीख से 24 माह			
5.	पश्चिमी क्षेत्र विस्तार स्कीम X X X III (डब्ल्यूआरईएस- X X X III): भाग ग <b>कार्य-क्षेत्र</b>		आरईसी पावर डेवलपमेंट एंड कंसल्टेंसी लिमिटेड	
	<b>क्रम सं.</b>	<b>पारेषण स्कीम का कार्य-क्षेत्र</b>		<b>क्षमता/कि.मी.</b>
	1	ईशानगर (नया) में 1x330 एमवीएआर, 765 केवी और 1x125 एमवीएआर, 420 केवी बस रिएक्टर के साथ 2x1500 एमवीए, 765/400 केवी और 2x500 एमवीए, 400/220 केवी सब-स्टेशन की स्थापना <b>भावी प्रावधान:</b> <b>निम्नलिखित के लिए जगह</b> <ul style="list-style-type: none"><li>• बे सहित 765/400 केवी आईसीटी- 4</li><li>• स्विचेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे - 8</li><li>• बे सहित 765 केवी बस रिएक्टर: 3</li><li>• 765 केवी सेक्शनलाइज़र: 1 सेट</li><li>• स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 10</li><li>• बे सहित 400/220 केवी आईसीटी-7</li><li>• बे सहित 400 केवी बस रिएक्टर: 3</li><li>• 400 केवी सेक्शनलाइज़ेशन बे: 1-सेट</li><li>• 220 केवी लाइन बे: 12</li><li>• 220 केवी सेक्शनलाइज़ेशन बे: 2 सेट</li><li>• 220 केवी बीसी और टीबीसी: 3</li></ul>		<ul style="list-style-type: none"><li>• 765/400 केवी, 1500 एमवीए आईसीटी - 2 (7x500 एमवीए 1-फेज यूनिट जिसमें एक अतिरिक्त आईसीटी यूनिट शामिल है)</li><li>• 400/220 केवी, 500 एमवीए आईसीटी - 2</li><li>• 765 केवी आईसीटी बे - 2</li><li>• 400 केवी आईसीटी बे - 4</li><li>• 220 केवी आईसीटी बे - 2</li><li>• 765 केवी लाइन बे - 2</li><li>• 330 एमवीएआर, 765 केवीबस रिएक्टर - 1 (4x 110 एमवीएआर जिसमें एक अतिरिक्त यूनिट शामिल है)</li><li>• 125 एमवीएआर, 420 केवी बस रिएक्टर - 1</li><li>• 765 केवी बस रिएक्टर बे: 1</li><li>• 400 केवी बस रिएक्टर बे: 1</li><li>• 220 केवी बस कपलर बे- 1</li><li>• 220 केवी ट्रांसफर बस कपलर (टीबीसी) बे - 1</li><li>• 220 केवी लाइन बे - 6 (220 केवी लाइन के लिए एमपीपीटीसीएल द्वारा कार्यान्वित की जाएगी#)</li></ul>
2	ईशानगर 765 केवी सब-स्टेशन (नया) में जबलपुर - उरई 765 केवी डी/सी लाइन के एक सर्किट का एलआईएलओ	एलआईएलओ रूट की लंबाई – 5 कि. मी. (10 सीकेएम)		
<b>टिप्पणी:</b> #220 केवी ईशानगर 765/400/220 केवी – जतारा 220 केवी डी/सी लाइन और 765/400/220 केवी ईशानगर में छतरपुर-टीकमगढ़ 220 केवी 2xएस/सी लाइन का एलआईएलओ (छतरपुर-टीकमगढ़ 220 केवी का दूसरा सर्किट वर्तमान में कार्यान्वयनाधीन है) <b>अंत:-राज्य के अधीन (एमपीपीटीसीएल द्वारा):</b> <ul style="list-style-type: none"><li>• जतारा 220 केवी सब-स्टेशन में 220/132 केवी, 2x200 एमवीए आईसीटी और 132/33 केवी 2x50 एमवीए आईसीटी की स्थापना</li></ul>				

	<ul style="list-style-type: none"> <li>• 220 केवी ईशानगर 765/400/220 केवी – जतारा 220 केवी डी/सी लाइन</li> <li>• छतरपुर-टीकमगढ़ 220 केवी डीसीएसएस लाइन की दूसरी सर्किट की स्ट्रिंगिंग</li> <li>• 765/400/220 केवी ईशानगर में छतरपुर-टीकमगढ़ 220 केवी डीसीडीएस लाइन के दोनों सर्किटों का एलआईएलओ</li> <li>• 132 केवी जतारा 220 केवी – जतारा 132 केवी डी/सी लाइन (उच्च क्षमता कंडक्टर सहित)</li> <li>• 132 केवी जतारा 220 केवी – नौगांव 132 केवी डी/सी लाइन</li> <li>• जतारा 132केवी - पृथ्वीपुर डीसीएसएस लाइन की दूसरे सर्किट की स्ट्रिंगिंग</li> <li>• जतारा 132 केवी - टीकमगढ़ डीसीएसएस लाइन की दूसरे सर्किट की स्ट्रिंगिंग</li> </ul> <p>एमपीपीटीसीएल उपरोक्त कार्यों को आईएसटीएस प्रणाली की समान समय-सीमा में निष्पादित करेगा।</p> <p><b>कार्यान्वयन समय-सीमा:</b> एसपीवी अंतरण की तारीख से 24 माह</p>																
6.	<p>शोंगटोंग करछम एचईपी (450 मेगावाट) और टिडोंग एचईपी (150 मेगावाट) से विद्युत की निकासी के लिए पारेषण प्रणाली</p> <p><b>कार्य-क्षेत्र</b></p> <table border="1"> <thead> <tr> <th>क्रम सं.</th><th>पारेषण स्कीम का कार्य-क्षेत्र</th><th>क्षमता/कि.मी.</th></tr> </thead> <tbody> <tr> <td colspan="3"><b>क. टीडोंग एचईपी के साथ चरण-I [समय :सीमा-दिनांक 01 जुलाई, 2026]</b></td></tr> <tr> <td>1</td><td> <p>झांगी में 2x315 एमवीए (एक अतिरिक्त यूनिट सहित 7x105 एमवीए 1-फेज यूनिट) 400/220 केवी जीआईएस पूलिंग स्टेशन की स्थापना</p> <p><b>भावी प्रावधान (निम्नलिखित के लिए जगह):</b></p> <ul style="list-style-type: none"> <li>• 5400 केवी लाइन बे</li> <li>• भावी परियोजनाओं के लिए 6 220 केवी लाइन बे (टिडोंग उत्पादन से कनेक्टिविटी हेतु 2 बे के लिए जगह का उपयोग किया जाएगा)</li> <li>• 2400/220 केवी ट्रांसफार्मर</li> <li>• बे सहित 1 420 केवी बस रिएक्टर</li> <li>• 220 केवी सेक्शनलाइज़ेशन बे: 1 सेट</li> <li>• बस कपलर: 1</li> </ul> </td><td> <ul style="list-style-type: none"> <li>• 400/220 केवी आईसीटी-2x315 एमवीए (7x105 एमवीए 1-फेज यूनिट जिसमें एक अतिरिक्त यूनिट शामिल है)</li> <li>• 400 केवी आईसीटी बे-2</li> <li>• 220 केवी आईसीटी बे2</li> <li>• 400 केवी लाइन बे (जीआईएस) -2 (झांगी पीएस - वांगटू डी/सी लाइन के लिए)</li> <li>• 420 केवी बस रिएक्टर-1 (4x 41.66 एमवीए 1-फेज यूनिट जिसमें एक अतिरिक्त यूनिट शामिल है)</li> <li>• 420 केवी रिएक्टर बे-1</li> </ul> </td></tr> <tr> <td>2</td><td>400 केवी झांगी पीएस - वांगटू (ब्राड) डी/सी लाइन (लाइन क्षमता नाममात्र वोल्टेज पर प्रति सर्किट 2500 एमवीए होगी)</td><td>रूट की लंबाई -54 कि.मी.</td></tr> <tr> <td>3</td><td>400 केवी झांगी पीएस-वांगटू डी/सी लाइन की समाप्ति के लिए वांगटू में 400 केवी बे</td><td>400 केवी बे – 2 (जीआईएस)</td></tr> </tbody> </table>	क्रम सं.	पारेषण स्कीम का कार्य-क्षेत्र	क्षमता/कि.मी.	<b>क. टीडोंग एचईपी के साथ चरण-I [समय :सीमा-दिनांक 01 जुलाई, 2026]</b>			1	<p>झांगी में 2x315 एमवीए (एक अतिरिक्त यूनिट सहित 7x105 एमवीए 1-फेज यूनिट) 400/220 केवी जीआईएस पूलिंग स्टेशन की स्थापना</p> <p><b>भावी प्रावधान (निम्नलिखित के लिए जगह):</b></p> <ul style="list-style-type: none"> <li>• 5400 केवी लाइन बे</li> <li>• भावी परियोजनाओं के लिए 6 220 केवी लाइन बे (टिडोंग उत्पादन से कनेक्टिविटी हेतु 2 बे के लिए जगह का उपयोग किया जाएगा)</li> <li>• 2400/220 केवी ट्रांसफार्मर</li> <li>• बे सहित 1 420 केवी बस रिएक्टर</li> <li>• 220 केवी सेक्शनलाइज़ेशन बे: 1 सेट</li> <li>• बस कपलर: 1</li> </ul>	<ul style="list-style-type: none"> <li>• 400/220 केवी आईसीटी-2x315 एमवीए (7x105 एमवीए 1-फेज यूनिट जिसमें एक अतिरिक्त यूनिट शामिल है)</li> <li>• 400 केवी आईसीटी बे-2</li> <li>• 220 केवी आईसीटी बे2</li> <li>• 400 केवी लाइन बे (जीआईएस) -2 (झांगी पीएस - वांगटू डी/सी लाइन के लिए)</li> <li>• 420 केवी बस रिएक्टर-1 (4x 41.66 एमवीए 1-फेज यूनिट जिसमें एक अतिरिक्त यूनिट शामिल है)</li> <li>• 420 केवी रिएक्टर बे-1</li> </ul>	2	400 केवी झांगी पीएस - वांगटू (ब्राड) डी/सी लाइन (लाइन क्षमता नाममात्र वोल्टेज पर प्रति सर्किट 2500 एमवीए होगी)	रूट की लंबाई -54 कि.मी.	3	400 केवी झांगी पीएस-वांगटू डी/सी लाइन की समाप्ति के लिए वांगटू में 400 केवी बे	400 केवी बे – 2 (जीआईएस)	<p>आरईसी पावर डेवलपमेंट एंड कंसल्टेंसी लिमिटेड</p>
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<b>ख. शोंगटोंग एचईपी के साथ चरण-II [समय-सीमा: दिनांक 31 जुलाई, 2026]</b>		
1	शोंगटोंग एचईपी के जेनरेशन स्विचयार्ड में झांगी पीएस-वांगटू (एचपीपीटीसीएल) 400 केवी डी/सी (क्वाड) लाइन <sup>§</sup> के एक सर्किट का एलआईएलओ	एलआईएलओ रूट की लंबाई - 1 कि.मी. (2 सीकेएम)
2	वांगटू (एचपीपीटीसीएल) - पंचकुला (पीजी) 400 केवी डी/सी (ट्रिवन एचटीएलएस*) लाइन के साथ-साथ प्रत्येक सर्किट के पंचकुला सिरे पर 80 एमवीएआर स्विचेबल लाइन रिएक्टर	रूट की लंबाई - 210 कि.मी.
3	400 केवी वांगटू (एचपीपीटीसीएल) - पंचकुला (पीजी) डी/सी लाइन की समाप्ति के लिए 400 केवी वेवांगटू सब-स्टेशन (2) और पंचकुला सब-स्टेशन (2)	400 केवी लाइन वे- 4 (वांगटू में 2 जीआईएस वे और पंचकुला में 2 एआईएस वे)
<p><sup>§</sup>नाममात्र वोल्टेज पर लाइन क्षमता 2500 एमवीए प्रति सर्किट होगी।</p> <p>* नाममात्र वोल्टेज पर प्रत्येक सर्किट पर 2100 एमवीए की न्यूनतम क्षमता के साथ</p> <p><b>टिप्पणी:</b></p> <p>i. आवेदक/उत्पादन विकासकर्ता के कार्यक्षेत्र के अधीन-टिडोंग एचईपी-झांगी पीएस 220 केवी डी/सी लाइन (दोनों सिरों पर संबद्ध वे के साथ)।</p> <p>ii. शोंगटोंग एचईपी के विकासकर्ता शोंगटोंग एचईपी के उत्पादन स्विचयार्ड में झांगी पीएस- वांगटू (एचपीपीटीसीएल) 400 केवी डी/सी (क्वाड) लाइन के एक सर्किट के एलआईएलओ के लिए शोंगटोंग स्विचयार्ड में 2 400 केवी वे की व्यवस्था करेंगे।</p> <p>iii. एचपीपीटीसीएल 400 केवी झांगी पीएस-वांगटू डी/सी लाइन और वांगटू (एचपीपीटीसीएल)-पंचकुला (पीजी) डी/सी लाइन की समाप्ति के लिए वांगटू सबस्टेशन पर चार 400 केवी लाइन वे (जीआईएस) के लिए स्थान प्रदान करेगा।</p> <p>iv. पावरग्रिड वांगटू (एचपीपीटीसीएल) - पंचकुला (पीजी) डी/सी लाइन की समाप्ति के लिए पंचकुला सब-स्टेशन में 2 400 केवी वे के लिए जगह प्रदान करेगा।</p> <p>v. ऊपर बताई गई लाइनों की लंबाई अनुमानित है क्योंकि वास्तविक लाइन की लंबाई विस्तृत सर्वेक्षण के बाद प्राप्त की जाएगी।</p> <p>vi. <b>कार्यान्वयन समय-सीमा:</b> दिनांक 1 जुलाई, 2026 से उत्तरोत्तर</p>		

2. बोली-प्रक्रिया समन्वयक की नियुक्ति इस संबंध में विद्युत मंत्रालय द्वारा जारी, समय-समय पर संशोधित, दिशा-निर्देशों में निर्धारित शर्तों के अधीन है।

[फा. सं. 15/3/2018-ट्रांस-भाग(1)]

मोहम्मद अफजल, संयुक्त सचिव (ट्रांस)

## MINISTRY OF POWER

### NOTIFICATION

New Delhi, the 13th April, 2023

**S.O. 1723(E).**—In exercise of the powers conferred by sub- para 3.2 of Para 3 of the Guidelines circulated under Section 63 of the Electricity Act, 2003 (no. 36 of 2003), the Central Government, on recommendations of 11<sup>th</sup> meeting of National Committee on Transmission, hereby appoints the following Bid-Process Coordinators (BPCs) for the Transmission Schemes, as shown against the name of the Transmission Schemes: -

Sl. No.	Name & Scope of the Transmission Scheme		Bid Process Coordinator	
1	Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part A		PFC Consulting Ltd.	
	Scope:			
	Sl. No.	Scope of the Transmission Scheme		Capacity /km
	1	Establishment of 765 kV Halvad switching station with 765 kV, 2x330 MVA bus reactors  Future Scope: Space for <ul style="list-style-type: none"><li>• 765/400 kV ICT along with bays- 6 Nos.</li><li>• 765 kV line bays along with switchable line reactors – 6 Nos.</li><li>• 765 kV Bus Reactor along with bay: 2 Nos.</li><li>• 765 kV Sectionalizer bay: 1 set</li><li>• 400 kV line bays along with switchable line reactor – 12 Nos.</li><li>• 400/220 kV ICT along with bays – 8 Nos.</li><li>• 400 kV Bus Reactor along with bays: 2 Nos.</li><li>• 400 kV Sectionalizer bay: 1 set</li><li>• 220 kV line bays: 16 Nos.</li><li>• 220 kV Sectionalizer bay: 2 sets</li><li>• 220 kV BC and TBC: 3 Nos.</li><li>• STATCOM (±300 MVA) along with MSC (2x125 MVA) &amp; MSR (1x125 MVA) alongwith associated bays: 1 No.</li></ul>		<ul style="list-style-type: none"><li>• 330 MVAR, 765 kV bus reactors - 2 (7x110 MVA single phase reactor units including 1 spare unit)</li><li>• 765 kV bus reactor bays- 2</li><li>• 765 kV line bays- 6 (for lines at Sl. 2 &amp; 5)</li></ul>
2	KPS2 (GIS) - Halvad 765 kV D/c line	Route length: 220 km		
3	240 MVA switchable line reactor on each ckt at both ends of KPS2- Halvad 765 kV D/c line	<ul style="list-style-type: none"><li>• 240 MVA, 765 kV switchable line reactors- 4 [2 at KPS2(GIS) &amp; 2 at Halvad]</li><li>• Switching equipment for 765 kV line reactors- 4 [2 at KPS2 (GIS) &amp; 2 at Halvad]</li><li>• 80 MVA, 765 kV, single phase spare reactor unit at KPS2 (GIS)</li><li>• 80 MVA, 765 kV, single phase spare reactor unit at Halvad S/s</li></ul>		

	<table><tr><td>4</td><td>2 Nos. of 765 kV GIS line bays at KPS2 for termination of KPS2 - Halvad 765 kV D/c line</td><td><ul style="list-style-type: none"><li>765 kV line bays (GIS) – 2 Nos. [for KPS2(GIS) end]</li></ul></td></tr><tr><td>5</td><td>LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad</td><td>LILO route length: 30 km (120 ckm)</td></tr></table>	4	2 Nos. of 765 kV GIS line bays at KPS2 for termination of KPS2 - Halvad 765 kV D/c line	<ul style="list-style-type: none"><li>765 kV line bays (GIS) – 2 Nos. [for KPS2(GIS) end]</li></ul>	5	LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad	LILO route length: 30 km (120 ckm)							
4	2 Nos. of 765 kV GIS line bays at KPS2 for termination of KPS2 - Halvad 765 kV D/c line	<ul style="list-style-type: none"><li>765 kV line bays (GIS) – 2 Nos. [for KPS2(GIS) end]</li></ul>												
5	LILO of Lakadia – Ahmedabad 765 kV D/c line at Halvad	LILO route length: 30 km (120 ckm)												
	<p><b>Note:</b></p> <p>i. Developer of KPS2 to provide space for implementation of 2 Nos. of 765 kV line bays alongwith switchable line reactors for termination of KPS2(GIS) - Halvad 765 kV D/c line</p> <p>ii. <b>Implementation timeframe:</b> 24 months from SPV transfer</p>													
2.	<p>Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B</p> <p><b>Scope:</b></p> <table><tr><th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity /km</th></tr><tr><td>1</td><td><p>Establishment of 765 kV switching station near Vataman with 2x330 MVAR, 765 kV bus reactors</p><p><b>Future Scope:</b></p><p>Space for</p><ul style="list-style-type: none"><li>765/400kV ICT along with bays- 6 Nos.</li><li>765 kV line bays along with switchable Line reactors – 6 Nos.</li><li>765kV Bus Reactor along with bay: 2 Nos.</li><li>765kV Sectionaliser bay: 1 -set</li><li>400 kV line bays along with switchable line reactor – 12 Nos.</li><li>400/220kV ICT along with bays -8 Nos.</li><li>400 kV Bus Reactor along with bay: 2 Nos.</li><li>400 kV Sectionalization bay: 1- set</li><li>220 kV line bays: 16 Nos.</li><li>220 kV Sectionalization bay: 2 sets</li><li>220 kV BC and TBC: 3 Nos.</li><li>STATCOM (±300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125MVAR) alongwith associated bays: 1 No.</li></ul></td><td><ul style="list-style-type: none"><li>330 MVAR 765 kV bus reactors-2 (7x110 MVAR single phase reactor units including 1 spare unit for line/bus reactor)</li><li>765 kV bus reactor bays- 2</li><li>765 kV line bays- 8 (for lines at Sl. 2, 5 &amp; 7)</li></ul></td></tr><tr><td>2</td><td>Halvad – Vataman 765 kV D/c line</td><td>Route length: 170 km</td></tr><tr><td>3</td><td>1x330 MVAR switchable line reactor on each ckt at Vataman end of Halvad – Vataman 765 kV D/c line</td><td><ul style="list-style-type: none"><li>330 MVAR, 765 kV switchable line reactor- 2 Nos. (6 x 110 MVAR single phase reactor unit) [110 MVAR single phase</li></ul></td></tr></table>	Sl. No.	Scope of the Transmission Scheme	Capacity /km	1	<p>Establishment of 765 kV switching station near Vataman with 2x330 MVAR, 765 kV bus reactors</p> <p><b>Future Scope:</b></p> <p>Space for</p> <ul style="list-style-type: none"><li>765/400kV ICT along with bays- 6 Nos.</li><li>765 kV line bays along with switchable Line reactors – 6 Nos.</li><li>765kV Bus Reactor along with bay: 2 Nos.</li><li>765kV Sectionaliser bay: 1 -set</li><li>400 kV line bays along with switchable line reactor – 12 Nos.</li><li>400/220kV ICT along with bays -8 Nos.</li><li>400 kV Bus Reactor along with bay: 2 Nos.</li><li>400 kV Sectionalization bay: 1- set</li><li>220 kV line bays: 16 Nos.</li><li>220 kV Sectionalization bay: 2 sets</li><li>220 kV BC and TBC: 3 Nos.</li><li>STATCOM (±300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125MVAR) alongwith associated bays: 1 No.</li></ul>	<ul style="list-style-type: none"><li>330 MVAR 765 kV bus reactors-2 (7x110 MVAR single phase reactor units including 1 spare unit for line/bus reactor)</li><li>765 kV bus reactor bays- 2</li><li>765 kV line bays- 8 (for lines at Sl. 2, 5 &amp; 7)</li></ul>	2	Halvad – Vataman 765 kV D/c line	Route length: 170 km	3	1x330 MVAR switchable line reactor on each ckt at Vataman end of Halvad – Vataman 765 kV D/c line	<ul style="list-style-type: none"><li>330 MVAR, 765 kV switchable line reactor- 2 Nos. (6 x 110 MVAR single phase reactor unit) [110 MVAR single phase</li></ul>	PFC Consulting Ltd.
Sl. No.	Scope of the Transmission Scheme	Capacity /km												
1	<p>Establishment of 765 kV switching station near Vataman with 2x330 MVAR, 765 kV bus reactors</p> <p><b>Future Scope:</b></p> <p>Space for</p> <ul style="list-style-type: none"><li>765/400kV ICT along with bays- 6 Nos.</li><li>765 kV line bays along with switchable Line reactors – 6 Nos.</li><li>765kV Bus Reactor along with bay: 2 Nos.</li><li>765kV Sectionaliser bay: 1 -set</li><li>400 kV line bays along with switchable line reactor – 12 Nos.</li><li>400/220kV ICT along with bays -8 Nos.</li><li>400 kV Bus Reactor along with bay: 2 Nos.</li><li>400 kV Sectionalization bay: 1- set</li><li>220 kV line bays: 16 Nos.</li><li>220 kV Sectionalization bay: 2 sets</li><li>220 kV BC and TBC: 3 Nos.</li><li>STATCOM (±300 MVAR) along with MSC (2x125 MVAR) &amp; MSR (1x125MVAR) alongwith associated bays: 1 No.</li></ul>	<ul style="list-style-type: none"><li>330 MVAR 765 kV bus reactors-2 (7x110 MVAR single phase reactor units including 1 spare unit for line/bus reactor)</li><li>765 kV bus reactor bays- 2</li><li>765 kV line bays- 8 (for lines at Sl. 2, 5 &amp; 7)</li></ul>												
2	Halvad – Vataman 765 kV D/c line	Route length: 170 km												
3	1x330 MVAR switchable line reactor on each ckt at Vataman end of Halvad – Vataman 765 kV D/c line	<ul style="list-style-type: none"><li>330 MVAR, 765 kV switchable line reactor- 2 Nos. (6 x 110 MVAR single phase reactor unit) [110 MVAR single phase</li></ul>												

		spare bus reactor unit to be used as spare for line reactor] • Switching equipment for 765 kV line reactor- 2	
4	2 Nos. of 765 kV line bays at Halvad end for termination of Halvad – Vataman 765 kV D/c line	• 765 kV line bays– 2 Nos. (for Halvad end)	
5	LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station	LILO route length: 10 km (40 ckm)	
6	240 MVar 765 kV switchable line reactor on each ckt at Vataman end of Lakadia – Vataman 765 kV D/c line with NGR bypassing arrangement	• 240 MVar, 765 kV switchable line reactor- 2 (7x 80 MVar single phase reactor units including 1 spare unit) • Switching equipment for 765 kV line reactors- 2	
7	Vataman switching station – Navsari (New) (GIS) 765 kV D/c line	Route length: 200 km	
8	330 MVar switchable line reactors on each ckt at Navsari (New) (GIS) end of Vataman switching station – Navsari (New) (GIS) 765 kV D/c line	• 330 MVar, 765 kV switchable line reactor- 2 Nos. (6 x 110 MVar single phase reactor unit ) [110 MVar spare reactor unit at Navsari being implemented by PGCIL, would be used as spare] • Switching equipment for 765 kV line reactors - 2	
9	2 Nos. of 765 kV GIS line bays at Navsari (New) for termination of Vataman switching station – Navsari (New) (GIS) 765 kV D/c line	• 765 kV line bays (GIS) – 2 Nos. (2 Nos. for Navsari (New) end)	
<b>Note:</b> <ol style="list-style-type: none"> <li>Developer of Halvad S/s to provide space for implementation of 2 Nos. of 765 kV linebays for termination of Halvad – Vataman 765 kV D/c line.</li> <li>Developer of Navsari (New)(GIS) S/s to provide space for implementation of 2 Nos. of 765 kV line bays alongwith switchable line reactors for termination of Vataman switching station – Navsari (New)(GIS) 765 kV D/c line. Also, developer of Navsari (New)(GIS) S/s to allow the use of 110 MVar single phase spare reactor unit for 330 MVar SLR on each ckt at Navsari (New) (GIS) end of Vataman switching station –Navsari (New) (GIS) 765 kV D/c line.</li> <li>Bay(s) as may be required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.</li> <li>Logic for Inter-tripping scheme for tripping of the switchable line reactor alongwith main line breaker at Lakadia and Vadodara end after LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station</li> </ol>			



	shall be enabled by the existing owner of the line (i.e. M/s LVTPL) after LILO of Lakadia – Vadodara 765 kV D/c line at Vataman 765 kV switching station.													
	v. <b>Implementation timeframe:</b> 24 months from SPV transfer.													
3	<p>Transmission scheme for evacuation of power from Dhule 2 GW REZ</p> <p><b>Scope:</b></p> <table><tr><th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity /km</th></tr><tr><td>1.</td><td><p>Establishment of 4x500 MVA, 400/220 kV Pooling Station near Dhule along with 2x125 MVA<sub>r</sub> (420 kV) Bus Reactors.</p><p><b>Future provision</b></p><p>Space for</p><ul style="list-style-type: none"><li>400 kV line bays along with switchable line reactor – 8 Nos.</li><li>400/220 kV ICT along with bays -6 Nos.</li><li>400 kV Bus Reactor along with bays: 2 Nos.</li><li>400 kV Bus Sectionalization bay: 1- set</li><li>220 kV line bays: 9 Nos.</li><li>220 kV Sectionalization bay: 1 set</li><li>220 kV BC and TBC: 1 No.</li></ul></td><td><ul style="list-style-type: none"><li>400/220 kV, 500 MVA ICT – 4 Nos.</li><li>400 kV ICT bays – 4 Nos.</li><li>220 kV ICT bays – 4 Nos. (2 Nos. on 220 kV bus section 1 and 2 Nos. on 220 kV bus section 2)</li><li>400 kV line bays – 2 Nos.</li><li>125 MVA<sub>r</sub>, 420 kV Bus reactor – 2 Nos.</li><li>Bus reactor bay: 2 Nos.</li><li>220 kV Bus coupler bay- 2 Nos.</li><li>220 kV Transfer Bus Coupler (TBC) bay – 2 Nos.</li><li>220 kV line bays – 7 Nos. (for RE interconnection out of which 4 Nos. would be on 220 kV bus section 1 and 3 Nos. on 220 kV bus section 2)</li><li>220 kV Bus Sectionalizer – 1 set</li></ul></td></tr><tr><td>2.</td><td>Dhule PS – Dhule (BDTCL) 400 kV D/c line (Quad ACSR/AAAC/AL59 Moose equivalent)</td><td>Route length: 60 km</td></tr><tr><td>3.</td><td>2 Nos. 400 kV line bays at Dhule (BDTCL) for Dhule PS – Dhule (BDTCL) 400 kV D/c Line</td><td>400 kV Line bays – 2 Nos</td></tr></table> <p><b>Note:</b></p> <p>i. BDTCL to provide space for 2 Nos. of 400 kV line bays for termination of Dhule PS –Dhule (BDTCL) 400 kV D/c Line</p> <p>ii. <b>Implementation timeframe:</b> 24 months from SPV transfer</p>	Sl. No.	Scope of the Transmission Scheme	Capacity /km	1.	<p>Establishment of 4x500 MVA, 400/220 kV Pooling Station near Dhule along with 2x125 MVA<sub>r</sub> (420 kV) Bus Reactors.</p> <p><b>Future provision</b></p> <p>Space for</p> <ul style="list-style-type: none"><li>400 kV line bays along with switchable line reactor – 8 Nos.</li><li>400/220 kV ICT along with bays -6 Nos.</li><li>400 kV Bus Reactor along with bays: 2 Nos.</li><li>400 kV Bus Sectionalization bay: 1- set</li><li>220 kV line bays: 9 Nos.</li><li>220 kV Sectionalization bay: 1 set</li><li>220 kV BC and TBC: 1 No.</li></ul>	<ul style="list-style-type: none"><li>400/220 kV, 500 MVA ICT – 4 Nos.</li><li>400 kV ICT bays – 4 Nos.</li><li>220 kV ICT bays – 4 Nos. (2 Nos. on 220 kV bus section 1 and 2 Nos. on 220 kV bus section 2)</li><li>400 kV line bays – 2 Nos.</li><li>125 MVA<sub>r</sub>, 420 kV Bus reactor – 2 Nos.</li><li>Bus reactor bay: 2 Nos.</li><li>220 kV Bus coupler bay- 2 Nos.</li><li>220 kV Transfer Bus Coupler (TBC) bay – 2 Nos.</li><li>220 kV line bays – 7 Nos. (for RE interconnection out of which 4 Nos. would be on 220 kV bus section 1 and 3 Nos. on 220 kV bus section 2)</li><li>220 kV Bus Sectionalizer – 1 set</li></ul>	2.	Dhule PS – Dhule (BDTCL) 400 kV D/c line (Quad ACSR/AAAC/AL59 Moose equivalent)	Route length: 60 km	3.	2 Nos. 400 kV line bays at Dhule (BDTCL) for Dhule PS – Dhule (BDTCL) 400 kV D/c Line	400 kV Line bays – 2 Nos	REC Power Development and Consultancy Limited
Sl. No.	Scope of the Transmission Scheme	Capacity /km												
1.	<p>Establishment of 4x500 MVA, 400/220 kV Pooling Station near Dhule along with 2x125 MVA<sub>r</sub> (420 kV) Bus Reactors.</p> <p><b>Future provision</b></p> <p>Space for</p> <ul style="list-style-type: none"><li>400 kV line bays along with switchable line reactor – 8 Nos.</li><li>400/220 kV ICT along with bays -6 Nos.</li><li>400 kV Bus Reactor along with bays: 2 Nos.</li><li>400 kV Bus Sectionalization bay: 1- set</li><li>220 kV line bays: 9 Nos.</li><li>220 kV Sectionalization bay: 1 set</li><li>220 kV BC and TBC: 1 No.</li></ul>	<ul style="list-style-type: none"><li>400/220 kV, 500 MVA ICT – 4 Nos.</li><li>400 kV ICT bays – 4 Nos.</li><li>220 kV ICT bays – 4 Nos. (2 Nos. on 220 kV bus section 1 and 2 Nos. on 220 kV bus section 2)</li><li>400 kV line bays – 2 Nos.</li><li>125 MVA<sub>r</sub>, 420 kV Bus reactor – 2 Nos.</li><li>Bus reactor bay: 2 Nos.</li><li>220 kV Bus coupler bay- 2 Nos.</li><li>220 kV Transfer Bus Coupler (TBC) bay – 2 Nos.</li><li>220 kV line bays – 7 Nos. (for RE interconnection out of which 4 Nos. would be on 220 kV bus section 1 and 3 Nos. on 220 kV bus section 2)</li><li>220 kV Bus Sectionalizer – 1 set</li></ul>												
2.	Dhule PS – Dhule (BDTCL) 400 kV D/c line (Quad ACSR/AAAC/AL59 Moose equivalent)	Route length: 60 km												
3.	2 Nos. 400 kV line bays at Dhule (BDTCL) for Dhule PS – Dhule (BDTCL) 400 kV D/c Line	400 kV Line bays – 2 Nos												
4.	<p>Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B</p> <p><b>Scope:</b></p> <table><tr><th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity /km</th></tr><tr><td>1</td><td>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Karera (near Dativa) along with</td><td><ul style="list-style-type: none"><li>765/400 kV, 1500 MVA ICT – 2 Nos. (7x500</li></ul></td></tr></table>	Sl. No.	Scope of the Transmission Scheme	Capacity /km	1	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Karera (near Dativa) along with	<ul style="list-style-type: none"><li>765/400 kV, 1500 MVA ICT – 2 Nos. (7x500</li></ul>	REC Power Development and Consultancy Limited						
Sl. No.	Scope of the Transmission Scheme	Capacity /km												
1	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Karera (near Dativa) along with	<ul style="list-style-type: none"><li>765/400 kV, 1500 MVA ICT – 2 Nos. (7x500</li></ul>												

	<p>1x330MVA 765 kV bus reactor &amp; 1x125MVA, 420 kV bus reactor</p> <p><b>Future provisions:</b></p> <p>Space for</p> <ul style="list-style-type: none"> <li>• 765/400 kV ICT along with bays- 4 Nos.</li> <li>• 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>• 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>• 765 kV Sectionalizer: 1 set</li> <li>• 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>• 400/220 kV ICT along with bays -6 Nos.</li> <li>• 400 kV Bus Reactor along with bays- 3Nos.</li> <li>• 400 kV Sectionalisation bay: 1 set</li> <li>• 220 kV line bays: 10 Nos.</li> <li>• 220 kV Sectionalisation bay: 1 set</li> <li>• 220 kV BC and TBC: 1 No.</li> </ul>	<p>MVA single phase units including one spare ICT unit)</p> <ul style="list-style-type: none"> <li>• 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>• 765 kV ICT bays – 2 Nos.</li> <li>• 400 kV ICT bays – 4 Nos.</li> <li>• 220 kV ICT bays – 2 Nos.</li> <li>• 765 kV Line bays – 2 Nos.</li> <li>• 330 MVA, 765 kV Bus Reactor – 1No. (4x110 MVAR single phase units including one spare unit)</li> <li>• 125 MVA, 420 kV Bus reactor – 1 No.</li> <li>• 765 kV Bus reactor bay: 1 No.</li> <li>• 400 kV Bus reactor bay: 1 No.</li> <li>• 220 kV Bus coupler bay- 2 Nos.</li> <li>• 220 kV Transfer Bus Coupler (TBC) bay - 2 Nos.</li> <li>• 220 kV line bays – 8 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> <li>• 220 kV Bus sectionalizer– 1 set</li> </ul>	
2	LILO of Satna-Gwalior 765 kV S/c line at Karera	LILO route length: 70 km (140 ckm)	
3	Installation of 1x330 MVA, switchable line reactor at Karera end of Karera – Satna 765 kV line	765 kV, 330 MVA SLR along with  Switching equipment – 1 No. (3x110 MVA) [110 MVA single phase reactor unit for bus reactor to be used as spare for line reactor too]	
<p># LILO of both circuits of Bina - Datia 220 kV D/c line at Karera, Extension of LILO portion of 220 kV Datia - Bina line for Pichhore 220 kV upto Karera &amp; Karera - Seondha 220 kV D/c line</p> <p><b>Note:</b></p> <p><b>Implementation timeframe:</b> 24 months from SPV transfer</p>			

5.	<p>Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C</p> <p><b>Scope:</b></p> <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity /km</th></tr> </thead> <tbody> <tr> <td>1</td><td> <p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV &amp; 1x125 MVA, 420 kV bus reactor</p> <p><b>Future provisions:</b></p> <p><b>Space for</b></p> <ul style="list-style-type: none"> <li>• 765/400 kV ICT along with bays- 4 Nos.</li> <li>• 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>• 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>• 765 kV Sectionalizer: 1 set</li> <li>• 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>• 400/220 kV ICT along with bays -7 Nos.</li> <li>• 400 kV Bus Reactor along with bay: 3Nos.</li> <li>• 400 kV Sectionalisation bay: 1- set</li> <li>• 220 kV line bays: 12 Nos.</li> <li>• 220 kV Sectionalisation bay: 2 sets</li> <li>• 220 kV BC and TBC: 3 Nos.</li> </ul> </td><td> <ul style="list-style-type: none"> <li>• 765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA 1-phase units including one spare ICT unit)</li> <li>• 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>• 765 kV ICT bays – 2 Nos.</li> <li>• 400 kV ICT bays – 4 Nos.</li> <li>• 220 kV ICT bays – 2 Nos.</li> <li>• 765 kV Line bays – 2 Nos.</li> <li>• 330 MVA, 765 kV Bus Reactor – 1 No. (4x 110 MVA including one spare unit)</li> <li>• 125 MVA, 420 kV Bus reactor – 1No.</li> <li>• 765 kV Bus reactor bay: 1 No.</li> <li>• 400 kV Bus reactor bay: 1 No.</li> <li>• 220 kV Bus coupler bay- 1 No.</li> <li>• 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> <li>• 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> </ul> </td></tr> <tr> <td>2</td><td> <p>LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)</p> </td><td> <p>LILO route length – 5 km (10 ckm)</p> </td></tr> </tbody> </table> <p><b>Note:</b></p> <p>#220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur – Tikamgarh 220 kV 2<sup>nd</sup> ckt is currently under implementation)</p> <p><b>Under Intra-State (by MPPTCL):</b></p> <ul style="list-style-type: none"> <li>• Establishment of 220/132 kV, 2x200 MVA ICT &amp; 132/33 kV 2x50 MVA ICT at Jatara 220 kV S/s</li> <li>• 220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line</li> </ul>	Sl. No.	Scope of the Transmission Scheme	Capacity /km	1	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV &amp; 1x125 MVA, 420 kV bus reactor</p> <p><b>Future provisions:</b></p> <p><b>Space for</b></p> <ul style="list-style-type: none"> <li>• 765/400 kV ICT along with bays- 4 Nos.</li> <li>• 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>• 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>• 765 kV Sectionalizer: 1 set</li> <li>• 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>• 400/220 kV ICT along with bays -7 Nos.</li> <li>• 400 kV Bus Reactor along with bay: 3Nos.</li> <li>• 400 kV Sectionalisation bay: 1- set</li> <li>• 220 kV line bays: 12 Nos.</li> <li>• 220 kV Sectionalisation bay: 2 sets</li> <li>• 220 kV BC and TBC: 3 Nos.</li> </ul>	<ul style="list-style-type: none"> <li>• 765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA 1-phase units including one spare ICT unit)</li> <li>• 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>• 765 kV ICT bays – 2 Nos.</li> <li>• 400 kV ICT bays – 4 Nos.</li> <li>• 220 kV ICT bays – 2 Nos.</li> <li>• 765 kV Line bays – 2 Nos.</li> <li>• 330 MVA, 765 kV Bus Reactor – 1 No. (4x 110 MVA including one spare unit)</li> <li>• 125 MVA, 420 kV Bus reactor – 1No.</li> <li>• 765 kV Bus reactor bay: 1 No.</li> <li>• 400 kV Bus reactor bay: 1 No.</li> <li>• 220 kV Bus coupler bay- 1 No.</li> <li>• 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> <li>• 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> </ul>	2	<p>LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)</p>	<p>LILO route length – 5 km (10 ckm)</p>	<p>REC Power Development and Consultancy Limited</p>
Sl. No.	Scope of the Transmission Scheme	Capacity /km									
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2	<p>LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)</p>	<p>LILO route length – 5 km (10 ckm)</p>									

	<ul style="list-style-type: none"> <li>• 2nd circuit stringing of Chhatarpur – Tikamgarh 220 kV DCSS line</li> <li>• LILO of both circuit of Chhatarpur – Tikamgarh 220 kV DCDS line at 765/400/220 kV Ishanagar</li> <li>• 132 kV Jatara 220 kV - Jatara 132 kV D/C line (With High Capacity Conductor)</li> <li>• 132 kV Jatara 220 kV - Nowgaon 132 kV D/C line</li> <li>• 2nd circuit stringing of Jatara 132 kV - Prithvipur DCSS line</li> <li>• 2nd circuit stringing of Jatara 132 kV - Tikamgarh DCSS line</li> </ul> <p>MPPTCL shall execute above works in matching time-frame of the ISTS system.</p> <p><b>Implementation timeframe:</b> 24 months from SPV transfer</p>																									
6.	<p>Transmission system for evacuation of power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150 MW)</p> <p><b>Scope:</b></p> <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity /km</th></tr> </thead> <tbody> <tr> <td colspan="3"><b>A. Phase-I with Tidong HEP [Schedule: 01<sup>st</sup> July 2026]</b></td></tr> <tr> <td>1</td><td> <p>Establishment of 2x315 MVA (7x105 MVA 1-ph units including a spare unit) 400/220 kV GIS Pooling Station at Jhangi</p> <p><b>Future provisions (Space for):</b></p> <ul style="list-style-type: none"> <li>• 5 Nos. of 400 kV line bays</li> <li>• 6 Nos. of 220 kV line bays for future projects ( space for 2 bays to be utilized for connectivity to Tidong generation)</li> <li>• 2 Nos. of 400/220 kV Transformer</li> <li>• 1 No. 420 kV Bus Reactor along with bay</li> <li>• 220 kV Sectionalisation bay: 1 set</li> <li>• Bus Coupler: 1 No.</li> </ul> </td><td> <ul style="list-style-type: none"> <li>• 400/220 kV ICTs- 2x315 MVA (7x105 MVA 1-ph units including a spare unit)</li> <li>• 400 kV ICT bays- 2 Nos.</li> <li>• 220 kV ICT bays- 2 Nos.</li> <li>• 400kV line bays (GIS) -2 Nos.</li> <li>(for Jhangi PS – Wangtoo D/c line)</li> <li>• 420 kV Bus reactor -1 No. (4x 41.66 MVA 1-ph units including one spare unit)</li> <li>• 420 kV Reactor bay-1 No.</li> </ul> </td></tr> <tr> <td>2</td><td>400 kV Jhangi PS – Wangtoo (Quad) D/c line (Line capacity shall be 2500 MVA per circuit at Nominal voltage)</td><td>Route length- 54 km</td></tr> <tr> <td>3</td><td>400 kV bays at Wangtoo for termination of 400kV Jhangi PS – Wangtoo D/c line</td><td>400 kV bays – 2 Nos.(GIS)</td></tr> <tr> <td colspan="3"><b>B. Phase-II with Shongtong HEP [Schedule : 31<sup>st</sup> July, 2026]</b></td></tr> <tr> <td>1</td><td>LILO of one circuit of Jhangi PS – Wangtoo (HPPTCL) 400 kV D/c (Quad) line<sup>s</sup> at generation switchyard of Shongtong HEP</td><td>LILO route length- 1 km (2 ckm)</td></tr> <tr> <td>2</td><td> <p>Wangtoo (HPPTCL) - Panchkula (PG) 400 kV</p> <p>D/c (Twin HTLS*) line along with 80 MVAr switchable line reactor at Panchkula end on each circuit</p> </td><td>Route length- 210 km</td></tr> </tbody> </table>	Sl. No.	Scope of the Transmission Scheme	Capacity /km	<b>A. Phase-I with Tidong HEP [Schedule: 01<sup>st</sup> July 2026]</b>			1	<p>Establishment of 2x315 MVA (7x105 MVA 1-ph units including a spare unit) 400/220 kV GIS Pooling Station at Jhangi</p> <p><b>Future provisions (Space for):</b></p> <ul style="list-style-type: none"> <li>• 5 Nos. of 400 kV line bays</li> <li>• 6 Nos. of 220 kV line bays for future projects ( space for 2 bays to be utilized for connectivity to Tidong generation)</li> <li>• 2 Nos. of 400/220 kV Transformer</li> <li>• 1 No. 420 kV Bus Reactor along with bay</li> <li>• 220 kV Sectionalisation bay: 1 set</li> <li>• Bus Coupler: 1 No.</li> </ul>	<ul style="list-style-type: none"> <li>• 400/220 kV ICTs- 2x315 MVA (7x105 MVA 1-ph units including a spare unit)</li> <li>• 400 kV ICT bays- 2 Nos.</li> <li>• 220 kV ICT bays- 2 Nos.</li> <li>• 400kV line bays (GIS) -2 Nos.</li> <li>(for Jhangi PS – Wangtoo D/c line)</li> <li>• 420 kV Bus reactor -1 No. (4x 41.66 MVA 1-ph units including one spare unit)</li> <li>• 420 kV Reactor bay-1 No.</li> </ul>	2	400 kV Jhangi PS – Wangtoo (Quad) D/c line (Line capacity shall be 2500 MVA per circuit at Nominal voltage)	Route length- 54 km	3	400 kV bays at Wangtoo for termination of 400kV Jhangi PS – Wangtoo D/c line	400 kV bays – 2 Nos.(GIS)	<b>B. Phase-II with Shongtong HEP [Schedule : 31<sup>st</sup> July, 2026]</b>			1	LILO of one circuit of Jhangi PS – Wangtoo (HPPTCL) 400 kV D/c (Quad) line <sup>s</sup> at generation switchyard of Shongtong HEP	LILO route length- 1 km (2 ckm)	2	<p>Wangtoo (HPPTCL) - Panchkula (PG) 400 kV</p> <p>D/c (Twin HTLS*) line along with 80 MVAr switchable line reactor at Panchkula end on each circuit</p>	Route length- 210 km	REC Power Development and Consultancy Limited
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2	<p>Wangtoo (HPPTCL) - Panchkula (PG) 400 kV</p> <p>D/c (Twin HTLS*) line along with 80 MVAr switchable line reactor at Panchkula end on each circuit</p>	Route length- 210 km																								

3	400 kV bays at Wangtoo S/s (2 Nos.) and Panchkula S/s (2 Nos.) for termination of 400kV Wangtoo (HPPTCL) - Panchkula (PG) D/c line	400 kV Line bays- 4 Nos. (2 Nos. GIS bays at Wangtoo and 2 Nos. AIS bays at Panchkula)
<p>§ Line capacity shall be 2500 MVA per circuit at Nominal voltage</p> <p>* with minimum capacity of 2100 MVA on each circuit at Nominal voltage</p> <p><b>Note :</b></p> <ol style="list-style-type: none"> <li>Tidong HEP- Jhangi PS 220 kV D/C line (along with associated bays at both ends) - under the scope of applicant/generation developer.</li> <li>Developer of Shongtong HEP to provide 2 Nos. of 400 kV bays at Shongtong switchyard for LILO of one circuit of Jhangi PS - Wangtoo (HPPTCL) 400 kV D/c (Quad) line at generation switchyard of Shongtong HEP</li> <li>HPPTCL to provide space for four number of 400 kV line bays (GIS) at Wangtoo substation for termination of 400 kV Jhangi PS – Wangtoo D/c line and Wangtoo (HPPTCL) - Panchkula (PG) D/c line</li> <li>Powergrid to provide space for 2 Nos. of 400 kV bays at Panchkula S/s for termination of Wangtoo (HPPTCL) - Panchkula (PG) D/c line</li> <li>The line lengths indicated above are approximate as the actual line length would be obtained after detailed survey</li> <li><b>Implementation timeframe:</b> Progressively from 1<sup>st</sup> July, 2026</li> </ol>		

2. The appointment of the Bid-Process Coordinator is subject to the conditions laid down in the Guidelines issued by Ministry of Power in this regard, as amended from time to time.

[F, No. 15/3/2018-Trans-Part(1)]

MOHAMMAD AFZAL, Jt. Secy. (Trans)

### अधिसूचना

नई दिल्ली, 13 अप्रैल, 2023

**का.आ. 1724(अ).**—विद्युत अधिनियम, 2003 (2003 की सं. 36) की धारा 63 के अंतर्गत परिचालित दिशा-निर्देशों के पैरा 3 के उप-पैरा 3.2 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, केंद्र सरकार ने नीचे दी गई तालिका में उल्लिखित राजपत्र अधिसूचना द्वारा टैरिफ आधारित प्रतिस्पर्धात्मक बोली के अंतर्गत कार्यान्वयन हेतु (टीवीसीबी) निम्नलिखित पारेषण स्कीमें अधिसूचित की थीं/ इनका कार्य क्षेत्र संशोधित किया था:

क्रम सं.	स्कीम का नाम	राजपत्र अधिसूचना जिसके द्वारा स्कीम अधिसूचित की गई थी
1	खावड़ा आरई पार्क में खावड़ा पूलिंग स्टेशन-2 (केपीएस2) की स्थापना	सां.आ. 5032(अ) दिनांक 06.12.2021 [फा. सं. 15/3/2018-ट्रांस-पार्ट (1)] तथा सां.आ. 8506(अ) दिनांक 23.02.2023 [फा. सं. 15/3/2018-ट्रांस-पार्ट (2)]
2	खावड़ा पीएस1 (केपीएस1) में 3 गीगावाट आरई विद्युत से अधिक इंजेक्शन के लिए पारेषण स्कीम	सां.आ. 5032(अ) दिनांक 06.12.2021 [फा. सं. 15/3/2018-ट्रांस-पार्ट (1)] तथा

		सां.आ. 8506(अ) दिनांक 23.02.2023 [फा. सं. 15/3/2018-ट्रांस-पार्ट (2)]
3	खावड़ा आरई पार्क में खावड़ा पूलिंग स्टेशन-3 (केपीएस3) की स्थापना	सां.आ. 5032(अ) दिनांक 06.12.2021 [फा. सं. 15/3/2018-ट्रांस-पार्ट (1)] तथा सां.आ. 8506(अ) दिनांक 23.02.2023 [फा. सं. 15/3/2018-ट्रांस-पार्ट (2)]
4	खावड़ा पीएस में चरण-III- भाग-ख के अंतर्गत 4.5 जीडब्ल्यू आरई इंजेक्शन की निकासी के लिए पारेषण स्कीम	सां.आ. 3313(अ) दिनांक 25.09.2020 [फा. सं. 15/3/2018-ट्रांस-पार्ट (2)]
5	चरण-III भाग ग1 के अंतर्गत राजस्थान में आरईजेड से विद्युत की निकासी (20 गीगावाट) के लिए पारेषण प्रणाली	सां.आ. 5032(अ) दिनांक 06.12.2021 [फा. सं. 15/3/2018-ट्रांस-पार्ट (1)]
6	चरण-III भाग च के अंतर्गत राजस्थान में आरईजेड से विद्युत की निकासी (20 गीगावाट) के लिए पारेषण प्रणाली	सां.आ. 5032(अ) दिनांक 06.12.2021 [फा. सं. 15/3/2018-ट्रांस-पार्ट (1)]

2. अब, केंद्र सरकार ने पारेषण संबंधी राष्ट्रीय समिति (एनसीटी) की 11वीं बैठक की सिफारिशों की जांच के पश्चात, उपर्युक्त छह स्कीमों के कार्य-क्षेत्र को संशोधित करने का निर्णय लिया है। अतः, एतद्वारा उपर्युक्त स्कीमों के कार्य-क्षेत्र को निम्नानुसार संशोधित किया जाता है:

क्रम सं.	स्कीम का नाम	स्कीम का संशोधित कार्य-क्षेत्र									
1.	खावड़ा आरई पार्क में खावड़ा पूलिंग स्टेशन-2 (केपीएस2) की स्थापना	स्कीम के कार्यान्वयन की समय-सीमा को एसपीवी अधिग्रहण की तारीख से 24 महीने से घटाकर 21 महीने कर दिया गया है। स्कीम के मूल कार्य क्षेत्र की अन्य सामग्री अपरिवर्तित रहेगी, जैसा कि पूर्व में अधिसूचित किया गया है।									
2.	खावड़ा पीएस1 (केपीएस1) में 3 गीगावाट आरई विद्युत से अधिक इंजेक्शन के लिए पारेषण स्कीम	स्कीम के कार्यान्वयन की समय-सीमा को एसपीवी अधिग्रहण की तारीख से 24 महीने से घटाकर 21 महीने कर दिया गया है। स्कीम के मूल कार्य क्षेत्र की अन्य सामग्री अपरिवर्तित रहेगी, जैसा कि पूर्व में अधिसूचित किया गया है।									
3.	खावड़ा आरई पार्क में खावड़ा पूलिंग स्टेशन-3 (केपीएस3) की स्थापना	स्कीम के कार्यान्वयन की समय-सीमा को एसपीवी अधिग्रहण की तारीख से 24 महीने से घटाकर 21 महीने कर दिया गया है। स्कीम के मूल कार्य क्षेत्र की अन्य सामग्री अपरिवर्तित रहेगी, जैसा कि पूर्व में अधिसूचित किया गया है।									
4.	खावड़ा पीएस में चरण-II- भाग-ख के अंतर्गत 4.5 जीडब्ल्यू आरई इंजेक्शन की निकासी के लिए पारेषण स्कीम	<b>कार्य-क्षेत्र</b> <table border="1"> <thead> <tr> <th>क्रम सं.</th><th>पारेषण स्कीम का कार्य-क्षेत्र</th><th>क्षमता/लाइन की लंबाई किमी</th></tr> </thead> <tbody> <tr> <td>1.</td><td>लकाडिया पीएस-अहमदाबाद 765 केवी डी/सी लाइन</td><td>200 किमी</td></tr> <tr> <td>2.</td><td>लकाडिया पीएस-अहमदाबाद 765 केवी डी/सी लाइन के लिए लकाडिया पीएस में 2 765 केवी लाइन वे</td><td>765 केवी लाइन वे - 2</td></tr> </tbody> </table>	क्रम सं.	पारेषण स्कीम का कार्य-क्षेत्र	क्षमता/लाइन की लंबाई किमी	1.	लकाडिया पीएस-अहमदाबाद 765 केवी डी/सी लाइन	200 किमी	2.	लकाडिया पीएस-अहमदाबाद 765 केवी डी/सी लाइन के लिए लकाडिया पीएस में 2 765 केवी लाइन वे	765 केवी लाइन वे - 2
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		<p>3. लकाडिया पीएस-अहमदाबाद 765 केवी डी/सी लाइन के अहमदाबाद सिरे पर प्रत्येक सर्किट के लिए 240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर</p> <ul style="list-style-type: none"> <li>• 1x240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर - 2 (लकाडिया पीएस - अहमदाबाद 765 केवी डी/सी लाइन के अहमदाबाद सिरे पर प्रत्येक सर्किट के लिए)</li> <li>• 765 केवी लाइन रिएक्टर के लिए स्विचिंग उपकरण - 2</li> <li>• 1x80 एमवीएआर स्पेयर रिएक्टर - 1 (अहमदाबाद सिरे के लिए)</li> </ul>						
		<p><b>कार्यान्वयन समय-सीमा::</b> आरई परियोजनाओं की मैचिंग समय-सीमा या 24 महीने, जो भी बाद में हो।</p> <p><b>टिप्पणी:</b> खावड़ा पीएस में चरण-II (भाग क से भाग ड) के अंतर्गत 4.5 जीडब्ल्यू आरई इंजेक्शन की निकासी के लिए प्रस्तावित सभी पारेषण पैकेजों का कार्यान्वयन समान समय-सीमा में किया जाना आवश्यक है।</p>						
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		2 रामगढ़ - भादला-3, 765 केवी डी/सी लाइन (180 किमी) के साथ के रामगढ़ छोर पर प्रत्येक सर्किट पर 240 एमवीएआर स्विचेबल लाइन रिएक्टर सहित रामगढ़ - भादला-3 765 केवी डी/सी लाइन	<ul style="list-style-type: none"> <li>• लंबाई - 180 कि.मी.</li> <li>• 765 केवी, 240 एमवीएआर स्विचेबल लाइन रिएक्टर - 2</li> <li>• 765 केवी 240 एमवीएआर स्विचेबल लाइन रिएक्टर के लिए स्विचिंग उपकरण-2</li> </ul>
		3 भादला-3 में 2, 765केवी लाइन वे	765 केवी लाइन वे - 2
		<b>टिप्पणी:</b> <ol style="list-style-type: none"> <li>चरण III-भाग ग1 पैकेज के कार्यान्वयन कार्यक्रम को पैकेज चरण III-भाग ख1 के साथ मैच करना है (भादला-3 पीएस, 765केवी भादला-3 पीएस-सीकर-2 डी/सी लाइन, 400केवी भादला-3 पीएस-फतेहगढ़-2 डी/सी लाइन की स्थापना)।</li> <li>रामगढ़-भादला-3 765 केवी डी/सी लाइन को समाप्त करने के लिए भादला-3 एस/एस में 2, 765 केवी लाइन वे के लिए स्थान प्रदान करने हेतु भादला-3 एस/एस के विकासकर्ता।</li> <li>ऊपर उल्लिखित लाइन की लंबाई अनुमानित है क्योंकि विस्तृत सर्वेक्षण के बाद सटीक लंबाई प्राप्त की जाएगी।</li> <li>शॉर्ट सर्किट स्तर को सीमित करने के लिए रामगढ़ में 400 केवी और 220 केवी स्तर पर उपयुक्त सेक्शनलाइजेशन का प्रावधान रखा जाएगा।</li> <li>±रामगढ़ पीएस के प्रत्येक 400 केवी बस सेक्शन में 300 एमवीएआर स्टेटकॉम लगाए जाने चाहिए</li> <li>रामगढ़ पीएस/भादला-3 पीएस में आरई उत्पादन विकासकर्ताओं से एलटीए प्राप्त होने पर स्कीम का कार्यान्वयन शुरू किया जाएगा</li> </ol> <p>**बस सेक्शनलाइजेशन वे में मेन बस-I और मेन बस-II दोनों का बस सेक्शनलाइजेशन शामिल होगा।</p> <p><b>कार्यान्वयन समय-सीमा:</b> एसपीवी अधिग्रहण की तिथि से 18 माह।</p>	
6.	चरण-III भाग च के अंतर्गत राजस्थान में आरईजेड से विद्युत की निकासी (20 जीडब्ल्यू) के लिए पारेषण प्रणाली	<b>कार्य-क्षेत्र:</b> <ol style="list-style-type: none"> <li>           ब्यावर के पास उपयुक्त स्थान पर 2x330 एमवीएआर 765केवी बस रिएक्टर और 2x125 एमवीएआर 420केवी बस रिएक्टर सहित 2x1500 एमवीए 765/400केवी सबस्टेशन की स्थापना  <b>भावी प्रावधान: निम्नलिखित के लिए स्थान</b> <ul style="list-style-type: none"> <li>• वे सहित 765/400केवी आईसीटी: 2</li> <li>• स्विचेबल लाइन रिएक्टर सहित 765केवी लाइन वे: 8</li> <li>• वे सहित 765केवी बस</li> </ul> </li> </ol>	
		<ul style="list-style-type: none"> <li>• 765/400केवी 1500 एमवीए आईसीटी: 2 (एक अतिरिक्त यूनिट सहित, 7x500 एमवीए,)</li> <li>• 330 एमवीएआर, 765 केवी बस रिएक्टर- 2 (एक अतिरिक्त यूनिट सहित 7x110 एमवीएआर)</li> <li>• 765 केवी आईसीटी वे - 2</li> <li>• 400 केवी आईसीटी वे - 2</li> <li>• 765 केवी लाइन वे - 6</li> <li>• 400 केवी लाइन वे- 2</li> <li>• 765 केवी रिएक्टर वे- 2</li> <li>• 125 एमवीएआर, 420 केवी बस</li> </ul>	

		रिएक्टर: 2 <ul style="list-style-type: none"> <li>• वे सहित 400/220 केवी आईसीटी:2</li> <li>• स्विचेबल लाइन रिएक्टर सहित 400 केवी लाइन बे: 4</li> <li>• वे सहित 400केवी बस रिएक्टर: 1</li> <li>• 220 केवी लाइन बे: 4</li> </ul>	रिएक्टर – 2 <ul style="list-style-type: none"> <li>• 420 केवी रिएक्टर बे – 2</li> </ul>
	2.	ब्यावर में अजमेर-चित्तौड़गढ़ 765 केवी डी/सी के दोनों सर्किटों का एलआईएलओ	लंबाई – 45 किमी
	3.	ब्यावर में 400 केवी कोटा-मेड़ता लाइन का एलआईएलओ	लंबाई – 20 किमी
	4.	फतेहगढ़-3-ब्यावर 765 केवी डी/सी लाइन के प्रत्येक छोर पर प्रत्येक सर्किट के लिए 330 एमवीएआर स्विचेबल लाइन रिएक्टर सहित फतेहगढ़-3-ब्यावर 765 केवी डी/सी	<ul style="list-style-type: none"> <li>• लंबाई – 30 किमी</li> <li>• 765 केवी 330 एमवीएआर स्विचेबल लाइन रिएक्टर के लिए स्विचिंग उपकरण –4</li> <li>• 765 केवी, 330 एमवीएआर स्विचेबल लाइन रिएक्टर - 4</li> </ul>
	5.	फतेहगढ़ -3 पीएस में स्टेटकॉम	फतेहगढ़-3 पीएस में 2 400 केवी बे सहित 4x125 एमवीएआर एमएससी, 2x125 एमवीएआर एमएसआर सहित ±2x300 एमवीएआर स्टेटकॉम
	<b>टिप्पणी:</b> <ol style="list-style-type: none"> <li>पावरग्रिड, फतेहगढ़-3 एस/एस में फतेहगढ़-3-ब्यावर 765 केवी डी/सी लाइन के लिए 765 केवी स्विचेबल लाइन रिएक्टरों के साथ 2 765 केवी लाइन बे के लिए जगह प्रदान करेगा।</li> <li>ऊपर उल्लिखित लाइन की लंबाई अनुमानित है क्योंकि विस्तृत सर्वेक्षण के बाद सटीक लंबाई प्राप्त की जाएगी।</li> <li>स्कीम फतेहगढ़-3 (नया खंड और/या फतेहगढ़-4) में एसईसीआई/आरईआईए द्वारा आरई परियोजना की पहली बोली अवार्ड किए जाने के बाद, अवार्ड की जाएगी।</li> <li>फतेहगढ़-3 पीएस (फेज-III पार्ट ड1) के प्रत्येक 400 केवी सेक्शन में +300 एमवीएआर स्टेटकॉम रखा जाएगा।</li> <li>पावरग्रिड फतेहगढ़ -3 पीएस में एमएससी और एमएसआर तथा संबंधित 400 केवी बे के साथ स्टेटकॉम के लिए जगह प्रदान करेगा।</li> <li><b>कार्यान्वयन समय-सीमा:</b> एसपीवी अधिग्रहण की तिथि से 18 माह।</li> </ol>		

3. मूल अधिसूचना के अनुसार इन स्कीमों के लिए बोली प्रक्रिया समन्वयक अपरिवर्तित रहेंगे।

[फा. सं. 15/3/2018-ट्रांस-पार्ट(1)]

मोहम्मद अफजल, संयुक्त सचिव (ट्रांस)

**NOTIFICATION**

New Delhi, the 13th April, 2023

**S.O. 1724(E).**— In exercise of the powers conferred by sub- para 3.2 of Para 3 of the Guidelines circulated under Section 63 of the Electricity Act, 2003 (no. 36 of 2003), the Central Government had notified/ modified scope of following transmission schemes for implementation under Tariff Based Competitive Bidding (TBCB) vide Gazette Notification mentioned in below table:

Sl. No.	Name of the Scheme	Gazette Notification by which Scheme was notified
1	Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park	S.O. 5032(E) dated 6.12.2021 [F. No. 15/3/2018-Trans-Pt(1)] and S.O. 856(E) dated 23.02.2023 [F. No. 15/3/2018-Trans-Pt(2)]
2	Transmission scheme for injection beyond 3 GW RE power at Khavda PS1 (KPS1)	S.O. 5032(E) dated 6.12.2021 [F. No. 15/3/2018-Trans-Pt(1)] and S.O. 856(E) dated 23.02.2023 [F. No. 15/3/2018-Trans-Pt(2)]
3	Establishment of Khavda Pooling Station-3 (KPS3) in Khavda RE Park	S.O. 5032(E) dated 6.12.2021 [F. No. 15/3/2018-Trans-Pt(1)] and S.O. 856(E) dated 23.02.2023 [F. No. 15/3/2018-Trans-Pt(2)]
4	Transmission scheme for evacuation of 4.5 GW RE Injection at Khavda PS under Phase-II- Part B	S.O. 3313(E) dated 25.09.2020 [F. No. 15/3/2018-Trans-Pt(2)]
5	Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C1	S.O. 5032(E) dated 06.12.2021 [F. No. 15/3/2018-Trans-Pt(1)]
6	Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part F	S.O. 5032(E) dated 6.12.2021 [F. No. 15/3/2018-Trans-Pt(1)]

2. Now, the Central Government has decided to modify the scope of above mentioned six schemes after examining the recommendations of the 11<sup>th</sup> meeting of National Committee on Transmission (NCT). As such, the scopes of above schemes are hereby modified as mentioned below:

Sl. No.	Name of the Scheme	Modified Scope of the scheme
1.	Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park	Implementation Time-frame for the scheme has been reduced from 24 months to 21 months from date of SPV acquisition.  Other contents of the original scope of the Scheme shall remain unchanged i.e. as notified earlier.
2.	Transmission scheme for injection beyond 3 GW RE power at Khavda PS1 (KPS1)	Implementation Time-frame for the scheme has been reduced from 24 months to 21 months from date of SPV acquisition.  Other contents of the original scope of the Scheme shall remain unchanged i.e. as notified earlier

3.	Establishment of Khavda Pooling Station-3 (KPS3) in Khavda RE Park	Implementation Time-frame for the scheme has been reduced from 24 months to 21 months from date of SPV acquisition.  Other contents of the original scope of the Scheme shall remain unchanged i.e. as notified earlier.												
4.	Transmission scheme for evacuation of 4.5 GW RE Injection at Khavda PS under Phase-II- Part B	<p><b>Scope</b></p> <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Scope of the Transmission Scheme</th><th>Capacity / line length km</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Lakadia PS – Ahmedabad 765kV D/c line</td><td>200 km</td></tr> <tr> <td>2.</td><td>2 nos. of 765 kV line bays at Lakadia PS for Lakadia PS – Ahmedabad 765kV D/c line</td><td>765 kV line bays – 2</td></tr> <tr> <td>3.</td><td>240 MVar, 765 kV switchable line reactor for each circuit at Ahmedabad end of Lakadia PS- Ahmedabad 765 kV D/c line</td><td> <ul style="list-style-type: none"> <li>• 1x240 MVar, 765 kV switchable line reactor – 2 (for each circuit at Ahmedabad end of Lakadia PS – Ahmedabad 765 kV D/c line)</li> <li>• Switching equipments for 765 kV line reactor – 2</li> <li>• 1x80 MVar spare reactor – 1(for Ahmedabad end)</li> </ul> </td></tr> </tbody> </table> <p><b>Implementation Timeframe:</b> Matching timeframe of RE projects or 24 months whichever is later.</p> <p><i>Note: Implementation of all the transmission packages proposed for evacuation of 4.5 GW RE injection at Khavda P.S. under Phase-II (Part A to Part E) needs to be taken up in similar timeframe.</i></p>	Sl. No.	Scope of the Transmission Scheme	Capacity / line length km	1.	Lakadia PS – Ahmedabad 765kV D/c line	200 km	2.	2 nos. of 765 kV line bays at Lakadia PS for Lakadia PS – Ahmedabad 765kV D/c line	765 kV line bays – 2	3.	240 MVar, 765 kV switchable line reactor for each circuit at Ahmedabad end of Lakadia PS- Ahmedabad 765 kV D/c line	<ul style="list-style-type: none"> <li>• 1x240 MVar, 765 kV switchable line reactor – 2 (for each circuit at Ahmedabad end of Lakadia PS – Ahmedabad 765 kV D/c line)</li> <li>• Switching equipments for 765 kV line reactor – 2</li> <li>• 1x80 MVar spare reactor – 1(for Ahmedabad end)</li> </ul>
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	<div><div><div><div><div>Note:</div><div><div><div>i.</div><div>Implementation schedule of Phase III –Part C1 package is to match with package Phase III –Part B1 (establishment of Bhadla-3 PS, 765kV Bhadla-3 PS-Sikar-2 D/c line, 400kV Bhadla-3 PS-Fatehgarh-2 D/c line).</div></div><div><div>ii.</div><div>Developer of Bhadla-3 S/s to provide space for 2 Nos. of 765 kV line bays at Bhadla-3 S/s for termination of Ramgarh – Bhadla-3 765kV D/c line</div></div><div><div>iii.</div><div>The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey</div></div><div><div>iv.</div><div>Provision of suitable sectionalization shall be kept at Ramgarh at 400kV &amp; 220kV levels to limit short circuit level</div></div><div><div>v.</div><div>±300 MVar STATCOM should be placed in each 400 kV bus section of Ramgarh PS</div></div><div><div>vi.</div><div>Implementation of the scheme to be taken up upon receipt of LTA from RE generation developers at Ramgarh PS/Bhadla-3 PS</div></div></div><div><div>** Bus Sectionalization bay shall comprise of bus sectionalization of both Main Bus-I &amp; Main Bus-II.</div><div><div>Implementation Timeframe:</div><div>18 months from date of SPV acquisition.</div></div></div></div></div></div></div>	
6.	<div><div><div>Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase-III Part F</div><div><div><div>Scope:</div><div><div><div><div>Sl. No.</div><div>Scope of the Transmission Scheme</div><div>Capacity /km</div></div><div><div>1.</div><div>Establishment of 2x1500</div><div>• 765/400kV 1500 MVA</div></div></div></div></div></div></div></div>	

		<p>MVA, 765/400 kV Substation at suitable location near Beawar along with 2x330 MVA 765 kV Bus Reactor &amp; 2x125 MVA 420 kV Bus Reactor</p> <p><b>Future provisions: Space for</b></p> <ul style="list-style-type: none"> <li>• 765/400kV ICTs along with bays: 2 nos.</li> <li>• 765kV line bay along with switchable line reactor: 8 nos.</li> <li>• 765kV Bus Reactor alongwith bays: 2nos.</li> <li>• 400/220 kV ICTs along with bays: 2nos.</li> <li>• 400 kV line bays along with switchable line reactor: 4 nos.</li> <li>• 400kV Bus Reactor alongwith bays: 1no.</li> <li>• 220 kV line bays: 4nos.</li> </ul>	<p>ICTs: 2 nos. (7x500 MVA, including one spare unit)</p> <ul style="list-style-type: none"> <li>• 330 MVA, 765 kV bus reactor- 2 (7x110 MVA, including one spare unit)</li> <li>• 765kV ICT bays – 2 nos.</li> <li>• 400 kV ICT bays – 2 nos.</li> <li>• 765 kV line bays – 6 Nos.</li> <li>• 400kV line bay- 2 nos.</li> <li>• 765kV reactor bay- 2 nos.</li> <li>• 125 MVA, 420kV bus reactor – 2 nos.</li> <li>• 420 kV reactor bay – 2nos.</li> </ul>
	2.	LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar	Length – 45km
	3.	LILO of 400kV Kota-Merta line at Beawar	Length – 20km
	4.	Fatehgarh-3 - Beawar 765 kV D/c alongwith 330 MVA Switchable line reactor for each circuit at each end of Fatehgarh-3 - Beawar 765 kV D/c line	<ul style="list-style-type: none"> <li>• Length – 350km</li> <li>• Switching equipment for 765 kV 330 MVA switchable line reactor- 4nos.</li> <li>• 765 kV, 330 MVA switchable line reactor- 4nos.</li> </ul>
	5.	STATCOM at Fatehgarh-3 PS	± 2x300 MVA STATCOM along with 4x125 MVA MSC, 2x125 MVA MSR alongwith 2 Nos. of 400 kV bays at Fatehgarh-3 PS
	<p><b>Note:</b></p> <ol style="list-style-type: none"> <li>POWERGRID shall provide space for 2 Nos. of 765 kV line bays at Fatehgarh-3 S/s for Fatehgarh-3 - Beawar 765 kV D/c line alongwith 765 kV switchable line reactors</li> <li>The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey</li> </ol>		

		<ul style="list-style-type: none"> <li>iii. Scheme to be awarded after SECI/REIA awards first bid of RE project at Fatehgarh-3 (new section and/or Fatehgarh-4).</li> <li>iv. <math>\pm 300</math> MVar STACOM should be placed in each 400 kV section of Fatehgarh-3 PS (Phase-III Part E1)</li> <li>v. POWERGRID shall provide space at Fatehgarh-3 PS for STATCOM alongwith MSC &amp; MSR and associated 400 kV bays.</li> <li>vi. <b>Implementation Timeframe:</b> 18 months from date of SPV acquisition</li> </ul>
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3. Bid Process Co-ordinators for these schemes will remain unchanged as per original notification.

[F. No. 15/3/2018-Trans-Part(1)]

MOHAMMAD AFZAL, Jt. Secy. (Trans)

**STANDARD SINGLE STAGE REQUEST FOR  
PROPOSAL DOCUMENT**

**FOR**

**SELECTION OF BIDDER AS TRANSMISSION  
SERVICE PROVIDER THROUGH TARIFF BASED  
COMPETITIVE BIDDING PROCESS**

**TO**

**ESTABLISH INTER-STATE TRANSMISSION SYSTEM**

**FOR**

**TRANSMISSION SYSTEM FOR  
WESTERN REGION EXPANSION SCHEME XXXIII  
(WRES-XXXIII): PART C**

**ISSUED BY**

**REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)**

**Registered Office:  
Core-4, SCOPE Complex,  
7, Lodhi Road, New Delhi – 110 003  
Email: pshariharan@recpdcl.in & tbc@recpdcl.in**

**22.05.2023**



**REC Power Development and Consultancy Limited**  
**(formerly REC Power Distribution Company Limited)**  
**(A wholly owned subsidiary of REC Limited)**  
**Core-4, SCOPE Complex,**  
**7, Lodhi Road, New Delhi – 110 003**

**Request for Proposal Document for selection of Bidder as Transmission Service Provider through tariff based competitive bidding process to establish Inter-State Transmission system for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” is issued by REC Power Development and Consultancy Limited.**

This RFP document is issued to -

M/s. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Chief Executive Officer,**  
**REC Power Development and Consultancy Limited**  
**(formerly REC Power Distribution Company Limited)**  
**(A wholly owned subsidiary of REC Limited)**

Email: .....

Place: .....

Date: .....

Signature: .....

**REQUEST FOR PROPOSAL NOTIFICATION**

**REC Power Development and Consultancy Limited**  
**(formerly REC Power Distribution Company Limited)**  
**(A wholly owned subsidiary of REC Limited)**  
**Core-4, SCOPE Complex,**  
**7, Lodhi Road, New Delhi – 110 003**

1. The Ministry of Power, Government of India, vide its notification no. 1644 [F. No. 15/3/2018-Trans-Pt(1)] dated 13.04.2023 has appointed REC Power Development and Consultancy Limited to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish transmission system for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”** through tariff based competitive bidding process.
2. REC Power Development and Consultancy Limited (hereinafter referred to as BPC) hereby invites all prospective Bidders for issue of Request for Proposal (RFP) for selection of Bidder as Transmission Service Provider (TSP) on the basis of international competitive bidding in accordance with the “Tariff Based Competitive Bidding Guidelines for Transmission Service” and “Guidelines for Encouraging Competition in Development of Transmission Projects” issued by Government of India, Ministry of Power under section – 63 of The Electricity Act, 2003 and as amended from time to time. The responsibility of the TSP would be to establish the following Inter-State Transmission System for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C** (hereinafter referred to as 'Project') on build, own, operate & transfer basis and to provide transmission service:

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
1	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVAr, 765 kV &amp; 1x125 MVAr, 420 kV bus reactor</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA 1-phase units including one spare ICT unit)</li> <li>➤ 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>➤ 765 kV ICT bays – 2 Nos.</li> <li>➤ 400 kV ICT bays – 4 Nos.</li> <li>➤ 220 kV ICT bays – 2 Nos.</li> <li>➤ 765 kV Line bays – 2 Nos.</li> <li>➤ 330 MVAr, 765 kV Bus Reactor – 1 No. (4x 110 MVAr including one spare unit)</li> <li>➤ 125 MVAr, 420 kV Bus reactor – 1 No.</li> </ul>	24 Months

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
	<ul style="list-style-type: none"> <li>➤ 765 kV Bus reactor bay: 1 No.</li> <li>➤ 400 kV Bus reactor bay: 1 No.</li> <li>➤ 220 kV Bus coupler bay- 1 No.</li> <li>➤ 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> <li>➤ 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> </ul> <p>Future provisions: Space for</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 set</li> <li>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>➤ 400/220 kV ICT along with bays -7 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 12 Nos.</li> <li>➤ 220 kV Sectionalization bay: 2 sets</li> <li>➤ 220 kV BC and TBC: 2 Nos.</li> </ul>	
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	

#220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur –Tikamgarh 220 kV 2<sup>nd</sup> ckt is currently under implementation)

**Note:**

(i) Implementation timeframe: 24 months from date of SPV transfer.

(ii) *MPPTCL shall execute downstream network in matching time-frame of ISTS system*

3. The TSP shall ensure that design, construction and testing of all equipment, facilities, components and systems of the Project shall be in accordance with the provisions of the Transmission Service Agreement and applicable Rules/ Regulations, Orders and Guidelines issued by the Central Government.
4. **Transmission License:** The TSP shall obtain the Transmission License from the Commission.
5. **Bidding Process:** The Transmission Service Provider shall be selected through tariff based competitive bidding process for the Project based on meeting stipulated Qualification Requirements prescribed in Clause 2.1 of Section 2 of RFP and the lowest Quoted Transmission Charges discovered from Final Offers quoted during the e-reverse bidding. The selection of the TSP shall be subject to it obtaining Transmission License from the Commission, which, after expiry, may be further extended by such period as deemed appropriate by the Commission under powers vested with it to amend the conditions of the Transmission License.

The entire bidding process shall be conducted on electronic platform created by MSTC Limited.

The Bid shall be a single stage two envelope bid comprising the Technical Bid and the Financial Bid. The Bidders shall submit the Bid online through the electronic bidding platform. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. There shall be no physical submission of the Financial Bid.

The Technical Bid shall be opened first and the Financial Bid of only the bidder who have qualified in the Technical Bid shall be opened. The Financial Bid will comprise of two rounds. In the first round the Initial Offer of the responsive bids would be opened and Quoted Transmission Charges of Initial Offer shall be ranked on the basis of ascending order. The Bidders, in the first fifty per cent of the ranking (with any fraction rounded off to higher integer) or four Bidders, whichever is higher, shall qualify for participating in the electronic reverse auction stage and submit their Final Offer.

6. The objective of the bidding process is to select a Successful Bidder pursuant to this RFP, who shall acquire one hundred percent (100%) of the equity shares of {name of the SPV} along with all its related assets and liabilities as per the provisions of the Share Purchase Agreement, at the Acquisition Price to be intimated by the BPC, twenty (20) days prior to the Bid Deadline.

The {name of the SPV}, of which one hundred percent (100%) equity shares will be acquired by the Selected Bidder, shall be responsible as the TSP, for ensuring that it undertakes ownership, financing, development, design, engineering, procurement, construction, commissioning, operation and maintenance of the Project, and to provide Transmission Service as per the terms of the RFP Project Documents.

The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to CTU or its successors or an agency as decided by the Central Government

after 35 years from COD of project at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days after 35 years from COD of project failing which CTU shall be entitled to take over the project assets Suo moto.

7. **Commencement of Transmission Service:** The Bidder shall have to commence Transmission Service in accordance with the provisions of the Transmission Service Agreement.
8. **Transmission Charges:** The Transmission Charges shall be payable by the Designated ISTS Customers in Indian Rupees **through** the CTU as per Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time. Bidders shall quote the Transmission Charges as per the pre-specified structure, as mentioned in the RFP.
9. **Issue of RFP document:** The detailed terms and conditions for qualification and selection of the Transmission Service Provider for the Project and for submission of Bid are indicated in the RFP document. All those interested in purchasing the RFP document may respond in writing to Chief Executive Officer, [pshariharan@recpdcl.in](mailto:pshariharan@recpdcl.in) & [tcb@recpdcl.in](mailto:tcb@recpdcl.in) at the address given in para 12 below with a non-refundable fee of Rs. 5,00,000/- (Rupees Five Lakh Only) or US\$ 7,000 (US Dollars Seven Thousand Only) plus GST @18%, to be paid latest by 21.07.2023 via electronic transfer to the following Bank Account:

Bank Name, Address & Branch	IDFC First Bank Limited Birla Towers, 4 <sup>th</sup> Floor East Tower & LGF West Tower, Barakhamba Road, New Delhi – 110001=
Bank Account Name	REC Power Development & Consultancy Limited (formerly REC Power Distribution Company Limited)
Bank Account No	10000697415
Bank IFSC Code No	IDFB0020101

Immediately after issuance of RFP document, the Bidder shall submit the Pre-Award Integrity Pact in the format as prescribed in Annexure B, which shall be applicable for and during the bidding process, duly signed on each page by any whole-time Director / Authorized Signatory, duly witnessed by two persons, and shall be submitted by the Bidder in two (2) originals in a separate envelope, duly superscripted with Pre-Award Integrity Pact. The Bidder shall submit the Pre-Award Integrity Pact on non-judicial stamp paper of Rs. 100/- each duly purchased from the National Capital Territory of Delhi. In case the Bidder is in a consortium, the Pre-Award Integrity Pact shall be signed and submitted by each member of the Consortium separately.

The RFP document shall be issued to the Bidders on any working day from 22.05.2023 to 21.07.2023 between 1030 hours (IST) to 1600 hours (IST). The BPC, on written request and against payment of the above mentioned fee by any Bidder shall promptly dispatch the RFP document to such Bidder by registered mail/ air mail. BPC shall, under no circumstances, be held responsible for late delivery or loss of documents so mailed.

10. **Receipt and opening of Bid:** The Bid must be uploaded online through the electronic bidding platform on or before 1400 hours (IST) on 24.07.2023. Technical Bid will be opened by the Bid Opening Committee on the same day at 1430 hours (IST) in the office of Central Electricity Authority, in the online presence of Bidders' representatives who wish to attend. If the Bid Deadline is a public holiday at the place of submission of Bid, it shall

be opened on the next working day at the same time and venue. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. Bidders meeting the Qualification Requirements, subject to evaluation as specified in Clause 3.2 to 3.4 shall be declared as “Qualified Bidders” and eligible for opening of Initial Offer.

11. The RFP document is not **transferable**. BPC reserves the right to reject all Bid and/or annul the process of tariff based competitive bidding for selection of Bidder as TSP to execute the Project without assigning any reason. BPC shall not bear any liability, whatsoever, in this regard.

12. **Nodal person for enquiries and clarifications**

All correspondence and clarification in respect of RFP document shall be addressed to:

Chief Executive Officer,  
REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
REC Corporate Head Quarter,  
D Block, Plot No. I – 4,  
Sec – 29 Gurugram – 122 001  
Email: pshariharan@recpdcl.in & tbc@recpdcl.in

**DISCLAIMER**

1. This Request for Proposal (RFP) document is not an agreement or offer by the BPC to the prospective Bidders or to any other party. The purpose of this RFP document is to provide interested parties with information to assist the formulation of their Bid. The RFP document is based on material and information available in public domain.
2. This RFP, along with its Annexure, is not transferable and the information contained therein are to be used only by the person to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors). In the event that the recipient does not continue with its involvement in the Project in accordance with this RFP, this RFP must be kept confidential.
3. While this RFP has been prepared in good faith, neither the BPC nor its employees or advisors/consultants make any representation or warranty expressed or implied as to the accuracy, reliability or completeness of the information contained in this RFP. The Bidders shall satisfy themselves, on receipt of the RFP document, that the RFP document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any Bidder within ten (10) days from the date of issue of this RFP document on or before the date & time mentioned in this RFP, it shall be considered that the issued document, complete in all respects, has been received by the Bidders.

This bidding process is in accordance with the Bidding Guidelines issued by Ministry of Power, Government of India under Section 63 of the Electricity Act, 2003. Revisions or amendments in these Bidding Guidelines may cause the BPC to modify, amend or supplement this RFP document, including the RFP Project Documents to be in conformance with the Bidding Guidelines.

4. This RFP document includes statements, which reflect various assumptions arrived at by BPC in order to give a reflection of current status in the RFP. These assumptions should not be entirely relied upon by Bidders in making their own assessments. This RFP document does not purport to contain all the information each Bidder may require and may not be appropriate for all persons. It is not possible for BPC to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP document. Certain Bidders may have a better knowledge of the Project than the others. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and obtain independent advice from appropriate sources.
5. Neither BPC nor their employees or consultants make any representation or warranty as to the accuracy, reliability or completeness of the information in this RFP document.
6. Neither BPC, its employees nor its consultants will have any liability to any Bidder or any other person under the law of contract, tort, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this RFP document, any matter deemed to form part of this RFP document, the award of the Project, the information supplied by or on behalf of BPC or its employees, any consultants or otherwise arising in any way from the qualification process for the said Project.
7. By participating in the bidding process, each of the Bidder shall have acknowledged and

accepted that it has not been induced to enter into such agreement by any representation or warranty, expressed or implied, or relied upon any such representation or warranty by or on behalf of BPC or any person working in the bidding process.

8. BPC may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement this RFP document. Such updations, amendments or supplements, if any, will however be circulated to the Bidders not later than 15 days prior to the last date for submission of Bid.
9. Each Bidder unconditionally agrees, understands and accepts that the BPC reserves the rights to accept or reject any or all Bids without giving any reason. Neither the BPC nor its advisers shall entertain any claim of any nature, whatsoever, including without limitations, any claim seeking expenses in relation to the preparation of Bids.
10. This RFP may be withdrawn or cancelled by the BPC at any time without assigning any reasons thereof. BPC further reserves the right, at its complete discretion to reject any or all of the Bids without assigning any reasons whatsoever.



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## DEFINITIONS

Any capitalized term, used but not defined in this RFP, shall have the meaning ascribed to such term in the RFP Project Documents, or the Bidding Guidelines, in that order. In absence of availability of definitions in the foregoing references, the capitalized terms shall be interpreted in accordance with the Electricity Act 2003, Grid Code or any other relevant electricity law, rule or regulation prevalent in India, as amended or re-enacted from time to time, in that order.

### The following terms are defined for use in this RFP:

**"Acquisition Price"** shall have the same meaning as defined in the Share Purchase Agreement;

**"Affiliate"** shall mean a company that either directly or indirectly

- i. controls or
- ii. is controlled by or
- iii. is under common control with

a Bidding Company (in the case of a single company) or a Member (in the case of a Consortium) and **"control"** means ownership by one entity of at least twenty six percent (26%) of the voting rights of the entity. As an illustration a chart is annexed hereto as Annexure – 12;

**"Bid"** shall mean Technical Bid and Financial Bid (Initial Offer and Final Offer) submitted by the Bidder, in response to this RFP, in accordance with the terms and conditions thereof;

**"Bidder"** shall mean either a single company (including its permitted successors and legal assigns) or a Consortium of companies (including its permitted successors and legal assigns) submitting a Bid in response to this RFP. Any reference to the Bidder includes Bidding Company, Bidding Consortium/ Consortium, Member in a Bidding Consortium and Lead Member of the Bidding Consortium jointly and severally, as the context may require;

**"Bidding Company"** shall refer to such single company (including its permitted successors and legal assigns) that has submitted a Bid for the Project;

**"Bidding Consortium/ Consortium"** shall refer to a group of companies (including their permitted successors and legal assigns) that has collectively submitted a Bid for the Project;

**"Bidding Guidelines"** shall mean the "Tariff Based Competitive-Bidding Guidelines for Transmission Service" and "Guidelines for Encouraging Competition in Development of Transmission Projects" issued by Government of India, Ministry of Power under Section – 63 of Electricity Act as amended from time to time;

**"Bid Bond"** shall mean the unconditional and irrevocable bank guarantee for Rupees Eight Crore Eighty Lakh Only (Rs. **8.80** Crore), to be submitted along with the Technical Bid by the Bidder under Clause 2.11 of this RFP, as per the format prescribed in Annexure 14;

**"Bid Deadline"** shall mean the last date and time for submission of online Bid in response to this RFP, specified in Clause 2.7.1;

**"Bid Process Coordinator or BPC"** shall mean a person or its authorized representative as

notified by the Government of India, responsible for carrying out the process for selection of Bidder who will acquire Transmission Service Provider;

**“Bid Security Declaration”** shall mean the declaration to be submitted along with the Technical Bid by the Bidder in lieu of the Bid Bond, as per the format prescribed in Annexure 14A;

**“CEA”** shall mean the Central Electricity Authority constituted under Section - 70 of the Electricity Act;

**“Commission” or “CERC”** shall mean the Central Electricity Regulatory Commission of India constituted under Section-76 of The Electricity Act, 2003 and any successors and assigns;

**“Conflict of Interest”** A Bidder shall be considered to be in a Conflict of Interest with one or more Bidders in the same bidding process if they have a relationship with each other, directly or through a common company, that puts them in a position to have access to information about or influence the Bid of another Bidder.

Provided that if two or more bidders in the bidding process have formed a Joint Venture Company or Consortium to execute another project, the Bidders will not be considered to have Conflict of Interest;

**“Commercial Operation Date (COD)”** shall mean the date as per Article 6.2 of the Transmission Service Agreement;

**“Consents, Clearances, Permits”** shall mean all authorizations, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements, or concessions required to be obtained from or provided by any concerned authority for the development, execution and performance of Project including without any limitation on the construction, ownership, operation and maintenance of the transmission lines and/or sub-stations;

**“Contract Performance Guarantee”** shall have the meaning as per Clause 2.12 of this RFP;

**“Contract Year”** shall mean the period beginning on the Scheduled COD, and ending on the immediately succeeding March 31 and thereafter each period of 12 months beginning on April 1 and ending on March 31 provided that:

- (i) the last Contract Year shall end on the last day of the term of the Transmission Service Agreement;

**“Infrastructure sector”** shall mean such sectors notified by Department of Economic Affairs in its Gazette Notification no. 13/1/2017-INF dated 14<sup>th</sup> November, 2017 and as amended from time to time;

**“CTU/Central Transmission Utility”** shall have same meaning as defined in the Electricity Act, 2003;

**“Designated ISTS Customers” or “DICs”** shall have the meaning as ascribed in Regulation 2(l) of Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulation 2020 and as amended or modified from time to time;

**"Effective Date"** shall have the meaning as ascribed thereto in the Transmission Service Agreement;

**"Element"** shall mean each Transmission Line or each circuit of the Transmission Lines (where there are more than one circuit) or each bay of the Sub-station or switching station or HVDC terminal or inverter station of the Project, including ICTs, Reactors, SVC, FSC, etc. forming part of the ISTS which will be owned, operated and maintained by the concerned ISTS Licensee, and which may have a separate scheduled COD as per Schedule 2 of the Transmission Service Agreement and may have a separate percentage for recovery of Transmission Charges on achieving COD as per Schedule 5 of the Transmission Service Agreement;

**"National Committee on Transmission"** shall mean the committee constituted by the Ministry of Power, Government of India in terms of the "Guidelines for Encouraging Competition in Development of Transmission Projects", as notified from time to time;

**"Final Offer"** shall mean the Quoted Transmission Charges, required to be submitted as part of the Financial Bid on the electronic bidding platform during the e-reverse bidding stage. In case, no Final Offer is received during the e-reverse bidding stage then the lowest "Initial Offer" shall be deemed to be the Final Offer;

**"Financial Bid"** shall mean the Initial Offer and Final Offer, containing the Bidder's Quoted Transmission Charges, as per the format at Annexure – 21 of this RFP;

**"Financially Evaluated Entity"** shall mean the company which has been evaluated for the satisfaction of the financial requirement set forth in Clause 2.1.3 hereof;

**"Government"** shall mean the Central Government;

**"Grid Code" / "IEGC" or "State Grid Code"** shall mean the Grid Code specified by the Central Commission under clause (h) of sub-section (1) of Section 79 of the Electricity Act and/or the State Grid Code as specified by the concerned State Commission referred under clause (h) of sub-section (1) of Section 86 of the Electricity Act as applicable;

**"Transmission Service Agreement" or "TSA"** shall mean the agreement entered into between Nodal Agency and the TSP, pursuant to which the TSP shall build, own, operate and transfer the Project and make available the assets of the Project on a commercial basis;

**"Initial Offer"** shall mean the Quoted Transmission Charges, required to be submitted as part of the Financial Bid on the electronic bidding platform along with the Technical Bid;

**"Inter State Generating Station" or "ISGS"** shall mean a Central / other generating station in which two or more states have shares and whose scheduling is to be coordinated by the Regional Load Despatch Centre;

**"Inter-State Transmission System"** shall have same meaning as defined in the Electricity Act, 2003;

**"Lead Member of the Bidding Consortium" or "Lead Member"** shall mean a company who commits at least twenty six percent (26%) equity stake in the Project, meets the technical requirement as per Clause 2.1.2 and so designated by other Member(s) in Bidding Consortium;

**“Letter of Intent” or “LoI”** shall mean the letter to be issued by the BPC to the Bidder, who has been identified as the selected bidder, for award of the Project to such Bidder;

**“Member in a Bidding Consortium/Member”** shall mean each company in the Bidding Consortium;

**“MOP”** shall mean the Ministry of Power, Government of India;

**“MOEF”** shall mean the Ministry of the Environment and Forests, Government of India;

**“Nodal Agency”** shall mean CTU, which shall execute and implement the Transmission Service Agreement (TSA);

Provided that while taking major decisions, CTU shall consult CEA on technical matters and any other matter it feels necessary.

**“Technical Bid”** shall mean the bid submitted online through the electronic bidding platform, containing the documents as listed out in Clause 2.5.2 of this RFP;

**“Parent Company”** shall mean an entity that holds at least twenty six percent (26%) of the paid - up equity capital directly or indirectly in the Bidding Company or in the Member in a Bidding Consortium, as the case may be;

**“Qualification Requirements”** shall mean the qualification requirements as set forth in Section-2, Clause 2.1 of this RFP;

**“Quoted Transmission Charges”** shall mean the quoted single annual Transmission Charges submitted online through the electronic bidding platform by the Bidder as part of its Financial Bid as per the format in Annexure – 21 of this RFP;

**“RFP”** shall mean Request for Proposal document along with all schedules, formats, annexure and RFP Project Documents attached hereto, issued by BPC for tariff based competitive bidding process for selection of bidder who will acquire the TSP through e-reverse bidding to execute the Project, and shall include any modifications, amendments or alterations or clarifications thereto;

**“RFP Project Documents”** shall mean the following documents to be entered into in respect of the Project, by the parties to the respective agreements:

- a. Transmission Service Agreement (TSA),
- b. Share Purchase Agreement,
- c. Agreement(s) required, if any, under Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time and
- d. Any other agreement, as may be required;

**“Scheduled COD”** shall have the meaning as ascribed hereto in Clause 2.6 of this RFP;

**“Statutory Auditor”** shall mean the auditor appointed under the provisions of the Companies Act, 1956 / Companies Act, 2013 (as the case may be) or under the provisions of any other applicable governing law;

**"Share Purchase Agreement"** shall mean the agreement amongst REC Power Development and Consultancy Limited, {name of the SPV} and the Successful Bidder for the purchase of one hundred (100%) per cent of the shareholding of the {name of the SPV} for the Acquisition Price, by the Successful Bidder on the terms and conditions as contained therein;

**"Successful Bidder"** or **"Selected Bidder"** shall mean the Bidder selected pursuant to this RFP to acquire one hundred percent (100%) equity shares of {name of the SPV}, along with all its related assets and liabilities, which will be responsible as the TSP to establish the Project on build, own, operate and transfer basis as per the terms of the Transmission Service Agreement and other RFP Project Documents;

**"Survey Report"** shall mean the report containing initial information regarding the Project and other details provided as per the provisions of Clause 1.6.2.1.1 of this RFP;

**"Technically Evaluated Entity"** shall mean the company which has been evaluated for the satisfaction of the technical requirement set forth in Clause 2.1.2 hereof;

**"Transmission Charges"** shall mean the Final Offer quoted by Selected Bidder and adopted by the Commission, and as computed in terms of the provisions of Schedule 4 of the TSA, payable to the ISTS Licensee by the Designated ISTS Customers, and collected / disbursed by the CTU, as per Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time;

**"Transmission License"** shall mean the license granted by the Commission in terms of the relevant regulations for grant of such license issued under the Electricity Act, 2003;

**"Transmission Service Provider" or "TSP"** shall mean {name of the SPV} which has executed the Transmission Service Agreement and which shall be acquired by the Selected Bidder;

**"Ultimate Parent Company"** shall mean an entity which owns at least twenty six percent (26%) equity in the Bidding Company or Member of a Consortium, (as the case may be) and in the Technically Evaluated Entity and/or Financially Evaluated Entity (as the case may be) and such Bidding Company or Member of a Consortium, (as the case may be) and the Technically Evaluated Entity and/or Financially Evaluated Entity (as the case may be) shall be under the direct control or indirectly under the common control of such entity.

## **SECTION – 1**

### **INTRODUCTION**



## SECTION 1

## 1. INTRODUCTION

- 1.1 The Government of India, Ministry of Power, vide its notification no. 1644[F. No. 15/3/2018-Trans-Pt(1)] dated 13.04.2023 has appointed REC Power Development and Consultancy Limited to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish transmission system for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”** through tariff based competitive bidding process.

The BPC hereby invites Bids from all prospective Bidders in accordance with this Request for Proposal (RFP) to select prospective Transmission Service Provider (TSP) in accordance with the “Tariff Based Competitive-Bidding Guidelines for Transmission Service” and “Guidelines for Encouraging Competition in Development of Transmission Projects” issued by Government of India, Ministry of Power under Section – 63 of the Electricity Act. The BPC shall select the Bidder having the prescribed technical and financial capability to become TSP and be responsible for establishing the Project in the state(s) of Madhya Pradesh . The TSP will make the Project available against payment of Transmission Charges, as adopted by the Commission, payable to the TSP, as per Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time.

- 1.2 The TSP will be required to establish the following Inter State Transmission System for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”** (hereinafter referred to as ‘Project’) on build, own, operate and transfer basis, and to provide transmission service.

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
1	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV &amp; 1x125 MVA, 420 kV bus reactor</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA 1-phase units including one spare ICT unit)</li> <li>➤ 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>➤ 765 kV ICT bays – 2 Nos.</li> <li>➤ 400 kV ICT bays – 4 Nos.</li> <li>➤ 220 kV ICT bays – 2 Nos.</li> <li>➤ 765 kV Line bays – 2 Nos.</li> <li>➤ 330 MVA, 765 kV Bus Reactor – 1 No. (4x 110 MVA including one spare unit)</li> </ul>	24 Months

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
	<ul style="list-style-type: none"> <li>➤ 125 MVar, 420 kV Bus reactor – 1 No.</li> <li>➤ 765 kV Bus reactor bay: 1 No.</li> <li>➤ 400 kV Bus reactor bay: 1 No.</li> <li>➤ 220 kV Bus coupler bay- 1 No.</li> <li>➤ 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> <li>➤ 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> </ul> <p>Future provisions: Space for</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 set</li> <li>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>➤ 400/220 kV ICT along with bays -7 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 12 Nos.</li> <li>➤ 220 kV Sectionalization bay: 2 sets</li> <li>➤ 220 kV BC and TBC: 2 Nos.</li> </ul>	
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	

*#220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur –Tikamgarh 220 kV 2<sup>nd</sup> ckt is currently under implementation)*

**Note:**

i) *Implementation timeframe: 24 months from date of SPV transfer.*

ii) *MPPTCL shall execute downstream network in matching time-frame of ISTS system*

### 1.3 Project Description

The scheme has been primarily conceived to cater to the loads in Chhatarpur, Tikamgarh & Jatara areas along with other Bulk Consumer loads envisaged in the area in future. Accordingly, joint studies were carried out and a new Substation at Ishanagar has been proposed. Further, NTPC is in the process of establishing a 630 MW solar project in Barethi area and it has been intimated that it would not be possible for NTPC to construct dedicated transmission line upto the nearest Chhatarpur PS in Bijawar area (planned for connectivity of 950MW RUMS SP), on account of the transmission line passing through Panna Tiger Reserve. In view of all of above, a new substation near Ishanagar was planned whereby MPPTCL would also be able to draw power through downstream system to cater to the electricity demand of Chhatarpur, Tikamgarh & Jatara areas along with Bulk Consumer loads and NTPC would as well be able to interconnect their 630MW Barethi SP with the planned Ishanagar Substation (located at distance of ~30-40 km).

The proposed scheme WRES-XXXIII: Part C includes establishment of 765/400 kV, 2x1500 MVA ICTs and 400/220 kV, 2x500 MVA ICTs at Ishanagar (New) with LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New) and the associated 220kV downstream system shall be implemented by MPPTCL.

The subject transmission system was deliberated and approved in the 11th NCT meeting held on 28.12.2022 and 17.01.2023. Ministry of Power vide Gazette notification no 1644 dated 13.04.2023 has appointed REC Power Development and Consultancy Limited as BPC for implementation of the subject transmission scheme through TBCB route.

### 1.4 Transmission Grid Map

Transmission Grid Map indicating the location of the Project is enclosed as Annexure 18 of this RFP for information and reference of the Bidders.

- 1.5 The objective of the bidding process is to select a Successful Bidder pursuant to this RFP, who shall acquire one hundred percent (100%) of the equity shares of {name of the SPV} along with all its related assets and liabilities as per the provisions of the Share Purchase Agreement, at the Acquisition Price to be intimated by the BPC, twenty (20) days prior to the Bid Deadline.

The {name of the SPV}, of which one hundred percent (100%) equity shares will be acquired by the Selected Bidder, shall be responsible as the TSP, for ensuring that it undertakes ownership, financing, development, design, engineering, procurement, construction, commissioning, operation and maintenance of the Project, and to provide Transmission Service as per the terms of the RFP Project Documents.

The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to CTU or its successors or an agency as decided by the Central Government after 35 years from COD of project at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days after 35 years from COD of project failing which CTU shall be entitled to take over the project assets Suo moto.

## 1.6 Brief Scope of Work

### 1.6.1 Scope of Transmission Service Provider

The TSP's scope of work for the Project shall comprise, but not necessarily be limited to the following:

- 1.6.1.1 Establishment, operation and maintenance of the Project on build, own, operate and transfer basis and completion of all the activities for the Project, including survey, detailed project report formulation, arranging finance, project management, necessary Consents, Clearances and Permits (way leave, environment & forest, civil aviation, railway/ road/river/canal/power crossing/PTCC, etc.), land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning. Further, the actual location of substations, switching stations or HVDC terminal or inverter stations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report.
- 1.6.1.2 The TSP shall ensure that design, construction and testing of all equipment, facilities, components and systems of the Project shall be in accordance with Transmission Service Agreement and applicable Rules/ Regulations, Orders and Guidelines issued by the Central Government.
- 1.6.1.3 The TSP shall ensure timely completion of entire scope of Project in all respects and its operation and maintenance, as shall be specified in the RFP documents.
- 1.6.1.4 The TSP shall seek Transmission License from the Commission, as per the provisions of the Electricity Act and regulations made thereunder.
- 1.6.1.5 The TSP shall seek approval under Section 164 of Electricity Act, from CEA after acquisition of {name of the SPV}. The approval shall be granted by CEA generally within 30 days but in no case later than 45 days from the date of receipt of application (complete in all aspects).

### 1.6.2 Scope of Bid Process Coordinator (BPC)

BPC's scope of work is briefly outlined hereunder:

- 1.6.2.1 The BPC has initiated development of the Project and shall be responsible for the tasks in this regard as specified hereunder:
  1. Provide to the Bidders a Survey Report for the Project at least forty five (45) days prior to the Bid Deadline. The Survey Report shall include the suggested route with approximate route length, type of terrain likely to be encountered and its likely implication in terms of Right of Way (ROW), statutory clearances, location of substations or converter stations and land area to be acquired for the substation or converter station.

2. To obtain approval for laying of overhead transmission lines under Section 68 of Electricity Act, from the Government at least twenty (20) days prior to Bid Deadline.
3. To initiate acquisition of land for location specific substations, switching stations or HVDC terminal or inverter stations, if required.
4. To initiate process of seeking forest clearance, if required
5. The BPC shall intimate to the Bidders, the Acquisition Price payable by the Selected Bidder to the REC Power Development and Consultancy Limited for the acquisition of one hundred percent (100%) of the equity shareholding of {name of the SPV}, along with all its related assets and liabilities at least twenty (20) days prior to the Bid Deadline.
6. The BPC shall ensure issuance of all finalized RFP Project Documents, at least fifteen (15) days prior to the Bid Deadline.

Provided that for any delay in meeting the above obligations of the BPC within the specified time period above, the Bid Deadline as per Clause 2.7.1 shall be extended on a day for day basis.

- 1.6.2.2 The details and documents as may be obtained by the BPC/ project specific SPV in relation to the Project shall be handed over to the TSP on an as-is-where-is basis, so that it may take further actions to obtain Consents, Clearances and Permits.
- 1.7 All costs (including direct and indirect) incurred by the BPC/ project specific SPV in connection with the activities concerning the Project shall be recovered from the TSP, which shall be included in the Acquisition Price.
- 1.8 The Project is required to be completed progressively in accordance with the schedule prescribed in this RFP.
- 1.9 A company under the Companies Act, 2013 by the name {name of the SPV} has been incorporated to initiate the activities for execution of the Project. The said company shall be acquired by the successful Bidder as per terms and conditions as may be prescribed in RFP.
- 1.10 The Ministry of Power and the appropriate state government(s) shall provide their support to the TSP, on best endeavor basis, in enabling the TSP to develop the Project.
- 1.11 All Bidders are required to submit their Bid in accordance with the instructions set forth in this RFP.
- 1.12 Once the Successful Bidder is selected, the details and documents as may be obtained by the BPC/ project specific SPV in relation to the Project, shall be handed over to the Successful Bidder on as is where basis, so that it may take further actions to obtain all necessary Consents, Clearances and Permits and the TSP shall not be entitled for any extensions in the Scheduled COD of the Project except as provided for in the TSA.
- 1.13 The assets of the Project shall be made available on a commercial basis as per the terms and conditions of the Transmission Service Agreement and Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as

amended from time to time.

## **SECTION - 2**

### **INFORMATION AND INSTRUCTIONS FOR BIDDERS**

**SECTION – 2****2. INFORMATION AND INSTRUCTIONS FOR BIDDERS****2.1 Qualification Requirements**

- 2.1.1 The Bidder should be a company duly incorporated under the relevant laws (Bidding Company) or a Consortium of companies (Bidding Consortium) with one of the companies acting as the Lead Member of the Bidding Consortium. The Bidder shall be selected on meeting the Qualification Requirements specified in Section 2 of this RFP, as demonstrated by the Bidder's Technical Bid and the lowest Quoted Transmission Charges discovered from Final Offers quoted during the e-reverse bidding. A Bidding Consortium can participate in the bidding process for the Project if any Member of the Consortium has purchased the RFP document for such Project. Bidder who agree and undertake to procure the products associated with the Transmission System as per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. 11/5/2018 - Coord. dated 28.07.2020 for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard, shall be eligible hereunder. Further, it is clarified that Procuring Entity as defined in orders shall deemed to have included Selected Bidder and/ or TSP.

Besides, Department of Expenditure, Ministry of Finance vide Order (Public Procurement No 1) bearing File No. 6/18/2019-PPD dated 23.07.2020, Order (Public Procurement No 2) bearing File No. 6/18/2019-PPD dated 23.07.2020 and Order (Public Procurement No. 3) bearing File No. 6/18/2019-PPD, dated 24.07.2020, as amended from time to time, have issued directions regarding public procurement from a bidder of a country, which shares land border with India are also applicable.

**2.1.2 Technical requirement to be met by the Bidding Company or Lead Member of Bidding Consortium**

The Bidder must fulfill any one of the following technical requirements:

- (i) Experience of development of projects in the Infrastructure Sector in the last five (5) years with aggregate capital expenditure of not less than **Rs. 500 Crore** or equivalent USD (calculated as per provisions in Clause 3.4.1). However, the capital expenditure of each project shall not be less than **Rs. 100 Crore** or equivalent USD (calculated as per provisions in Clause 3.4.1).

For this purpose, capital expenditure incurred on projects that have been commissioned/completed at least seven (7) days prior to Bid Deadline shall be considered. The capital expenditure discussed above shall be as capitalized and reflected in the audited books of accounts of the Technically Evaluated Entity. In case a clearly identifiable part of a project has been put into commercial operation, the capital expenditure on such part of the project shall be considered. The Technically Evaluated Entity must have either executed such projects itself or must have held directly or indirectly at least twenty six percent (26%) of the shareholding in the company that has executed the project(s) from the date of financial closure of the project(s) till the time of commissioning/completion of such project(s).



OR

- (ii) Experience in construction of project in infrastructure sector: The Technically Evaluated Entity should have received aggregate payments not less than **Rs.500 Crore** or equivalent USD (calculated as per provisions in Clause 3.4.1) from its client(s) for construction works fully completed during the last 5(five) financial years. However, the payment received from each project shall not be less than **Rs. 100 Crore** or equivalent USD (calculated as per provisions in Clause 3.4.1).

For this purpose, payments received on projects that have been commissioned/completed at least seven (7) days prior to Bid Deadline shall be considered. Further only the payments (gross) actually received, during such 5 (five) financial years shall qualify for purposes of computing the technical capacity. For the avoidance of doubt, construction works shall not include cost of land, supply of goods or equipment except when such goods or equipment form part of a turn-key construction contract/EPC contract for the project. Further, in cases where different individual contracts are signed between same entities for the same project, the cumulative payments received under such individual contracts shall be considered for meeting the qualification requirement.

The Technically Evaluated Entity may be the Bidding Company or the Lead Member of a Consortium or an Affiliate or Parent of such Bidding Company or the Lead Member, as the case may be.

Bidders shall furnish documentary evidence duly certified by authorized signatory of the Bidder who has been issued Power of Attorney in support of their technical capability as defined in Clause 2.1.2 of this RFP.

### 2.1.3 Financial requirement to be met by the Bidding Company/Bidding Consortium

#### 2.1.3.1 The Bidder must fulfill following financial requirements:

##### A. Networth:

Networth should be not less than **Rs. 250 Crore** or equivalent USD (calculated as per provisions in Clause 3.4.1) computed as the Networth based on unconsolidated audited annual accounts (refer to Note below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the Networth of any of the last three (3) financial years should not be negative.

Note: Audited consolidated annual accounts of the Bidder may be used for the purpose of financial criteria provided the Bidder has at least 26% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Technical Bid. Bidders shall furnish prescribed Annexure 7 (A) duly certified by authorized signatory of the Bidder who has been issued Power of Attorney and the Statutory Auditor and separate computation sheet for Networth duly certified by Statutory Auditor in support of their financial capability as defined in Clause 2.1.3 of this RFP.

2.1.3.2 The Networth shall be computed in the following manner by the Bidder:

**A. Networth**

=	Equity share capital
Add:	Reserves
Subtract:	Revaluation Reserves
Subtract:	Intangible Assets
Subtract:	Miscellaneous expenditures to the extent not written off and carry forward losses

2.1.3.3 If the Technical Bid is submitted by a Bidding Consortium the financial requirement shall be met individually and collectively by all the Members in the Bidding Consortium. The financial requirement to be met by each Member of the Bidding Consortium shall be computed in proportion to the equity commitment made by each of them for investment in the Project.

2.1.4 The Bidder may seek qualification on the basis of technical and financial capability of its Parent and/ or its Affiliate(s) for the purpose of meeting the Qualification Requirements. However, in the case of the Bidder being a Consortium, the Lead Member has to meet the technical requirement on its own or by seeking the technical capability of its Parent and/or its Affiliate(s). Authorization for use of such technical or financial capability shall have to be provided from its Parent and/or Affiliate(s) as per Annexure 9. The technical and financial capability of a particular company/ particular project, including its Parents and/or Affiliates, shall not be used directly or indirectly by more than one Bidder/ Member of a Bidding Consortium/ Bidding Company. However, development and construction experience of a particular project may be used by more than one company.

The determination of the relationship of Parent or Affiliate with the Bidding Company or with the Member of the Bidding Consortium, including the Lead Member, shall be on the date at the most seven (7) days prior to the last date of submission of the Bid. Documentary evidence to establish such relationship shall be furnished by the Bidder along with the Technical Bid.

If the Technically Evaluated Entity and/or Financially Evaluated Entity is an entity other than the Bidding Company or a Member in a Bidding Consortium, the Bidding Company or Member relying on such Technically Evaluated Entity and/or Financially Evaluated Entity will have to submit a legally binding undertaking supported by a board resolution from the Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, that all the equity investment obligations of the Bidding Company or the Member of the Consortium shall be deemed to be equity investment obligations of the Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, and in the event of any default the same shall be met by such evaluated entity or by or the Ultimate Parent Company. The Bidding Company or the Consortium Member shall have to provide information and documents relating to its relationship with such Technically Evaluated Entity and/or Financially Evaluated Entity including details about the equity shareholding between them as per Annexure 7(C).

- 2.1.5 A Bidder shall submit only one Bid in the same bidding process, either individually as Bidding Company or as a Member of a Bidding Consortium (including the Lead Member). It is further clarified that any of the Parent/ Affiliate/Ultimate Parent of the Bidder/ Member in a Bidding Consortium shall not separately participate directly or indirectly in the same bidding process. Further, if any Bidder is having a Conflict of Interest with other Bidders participating in the same bidding process, the Bids of all such Bidders shall be rejected.
- 2.1.6 Notwithstanding anything stated above, BPC reserves the right to verify the authenticity of the documents submitted for meeting the Qualification Requirements and request for any additional information and documents. BPC reserves the right at its sole discretion to contact the Bidder's bank and project references and verify the Bidder's information and documents for the purpose of bid evaluation.
- 2.1.7 The Qualified Bidder(s) will be required to continue to maintain compliance with the Qualification Requirements throughout the bidding process and till execution of the Transmission Service Agreement. Where the Technically Evaluated Entity and/or the Financially Evaluated Entity is not the Bidding Company or a Member in a Bidding Consortium, as the case may be, the Bidding Company or Member shall continue to be an Affiliate of the Technically Evaluated Entity and/or Financially Evaluated Entity till the execution of the Transmission Service Agreement. Failure to comply with the aforesaid provisions shall make the Bid liable for rejection at any stage.
- 2.1.8 The Selected Bidder will be required to continue to maintain compliance with the Qualification Requirements till the COD of the Project. Where the Technically Evaluated Entity and/or the Financially Evaluated Entity is not the Bidding Company or a Member in a Bidding Consortium, as the case may be, the Bidding Company or Member shall continue to be an Affiliate of the Technically Evaluated Entity and/or Financially Evaluated Entity till the COD of the Project. Failure to comply with the aforesaid provisions shall be dealt as per provisions of Transmission Service Agreement.
- 2.1.9 On the Bid Deadline, for the Bidder to be eligible to participate in the bidding process:
- a. the Bidder & any of its Affiliate including any Consortium Member & any of its Affiliate, their directors or key personnel should not have been barred or included in the blacklist by any government agency or authority in India, the government of the jurisdiction of the Bidder or Members where they are incorporated or the jurisdiction of their principal place of business, any international financial institution such as the World Bank Group, Asian Development Bank, African Development Bank, Inter-American Development Bank, Asian Infrastructure Investment Bank etc or the United Nations or any of its agencies; or
  - b. the Bidder & any of its Affiliate including any Consortium Member & any of its Affiliate or their directors should not have been convicted of any offence in India or abroad.

In case any investigation is pending against the Bidder, including any Consortium Member or Affiliate, or CEO or any of the directors/ manager/key managerial personnel of the Bidder /Consortium /Member or their Affiliates, full details of such investigation including the name of the investigating agency, the charge/offence for which the investigation has been launched, name and designation of persons against whom the

investigation has been launched and other relevant information should be disclosed while submitting the Bid.

The Bidders shall confirm the above through a notarized affidavit as per Annexure 22.

## **2.2 Submission of Bid by the Bidder**

2.2.1 The information and documents in Technical Bid will be submitted by the Bidder as per the formats specified in Section – 4 (Formats for RFP) of this document

2.2.2 Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures/pamphlets. Non-adherence to formats and/ or submission of incomplete information may be a ground for declaring the Technical Bid as non-responsive. Each format has to be duly signed and stamped by the authorized signatory of Bidder.

2.2.3 The Technical Bid shall contain unconsolidated/consolidated audited annual accounts (consisting of unabridged Balance Sheet, Profit and Loss Account, profit appropriation account, Auditors Report, etc.), as the case may be, of Bidding Company or each Member in Consortium including Lead Member or the Financially Evaluated Entity for the last three (3) financial years immediately preceding the last date for submission of Bid for the purpose of calculation of Networth.

In case the annual accounts for the financial year immediately preceding the Bid Deadline is not audited, the Bidder shall give declaration in this regard duly certified by its statutory auditor. In such a case, the Bidder shall provide the audited annual accounts for the three (3) financial years preceding the financial year as above for which the annual accounts have not been audited.

2.2.4 Bid submitted by a Bidding Consortium:

2.2.4.1 The Technical Bid shall contain a legally enforceable Consortium Agreement entered amongst the Members in the Bidding Consortium, designating one of the Members to be the Lead Member (as per Annexure 6). There shall be only one Lead Member which shall continue to hold twenty six percent (26%) equity in the TSP and cannot be changed upto one (1) year from the Commercial Operation Date (COD) of the Project. Each Member in Bidding Consortium shall duly sign the Consortium Agreement making it liable for raising the required funds for its respective equity investment commitment as specified in the Consortium Agreement. In absence of Consortium Agreement, the Technical Bid will not be considered for evaluation and will be rejected.

Provided that the Lead Member of the Bidding Consortium will be required to be liable to the extent of 100% of the total proposed commitment of equity investment of the Bidding Consortium i.e. for both its own equity contribution as well as the equity contribution of other Members.

Provided further that the Consortium Agreement shall not be amended without the explicit approval of the BPC.

The Lead Member of the Consortium will be the single point of contact for the purposes of the bid process before the date of signing of Share Purchase Agreement. Settlement of any dispute amongst the Consortium Members shall not be the responsibility of the BPC and/or the CTU and the BPC and/or the CTU shall not bear any liability whatsoever on this account.

2.2.4.2 The Lead Member should designate at the most two persons to represent the Consortium in its dealings with the BPC. The person(s) designated by the Lead Member should be authorized through a Power of Attorney (as per Annexure 3) to perform all tasks including, but not limited to providing information, responding to enquiries, signing of Technical Bid on behalf of the Consortium, etc. The Bidding Consortium shall provide board resolutions from their respective Boards for committing their respective portion of equity requirement for the Project. Additionally, the Lead member shall provide a Board resolution committing to make good any shortfall in the equity for the project, in case of any member not meeting its equity commitment.

2.2.4.3 The Technical Bid should also contain signed Letter of Consent (as per Annexure 2) from each Member in Consortium confirming that the entire Technical and Financial Bids has been reviewed and each element of the Technical and Financial Bids is agreed to by them including investment commitment for the Project.

In addition, the Technical Bid should also contain Board Resolution from each Member of the Consortium other than the Lead Member in favour of their respective authorized representatives for executing the POA, Consortium Agreement and signing of the requisite formats.

#### 2.2.5 Bid submitted by a Bidding Company

2.2.5.1 The Bidding Company should designate at the most two persons to represent the Bidding Company in its dealings with BPC. The person(s) should be authorized to perform all tasks including, but not limited to providing information, responding to enquiries, signing of Technical and Financial Bids etc. The Bidding Company should submit, along with Technical Bid, a Power of Attorney (as per Annexure 3), authorizing the signatory of the Technical and Financial Bids. The Bidding Company shall submit the board resolution committing 100% of equity requirement for the Project, in the Technical Bid.

### 2.3 Clarifications & Pre-Bid Meeting

2.3.1 The Bidders may seek clarifications or suggest amendments to the RFP by sending an email to the BPC at the email id indicated in Clause 2.14 within the date and time mentioned in Clause 2.7.2. For any such clarifications or amendments, the Bidders should adhere to the format as per Annexure – 19.

2.3.2 Only those Bidders or their authorized representatives, who have purchased the RFP documents are invited to attend the pre-bid meeting(s), which will take place on date as specified in Clause 2.7.2, or any such other date as notified by the BPC. The time and address of this would be intimated later.

2.3.3 The purpose of the pre-bid meeting will be to clarify any issues regarding the RFP, including in particular, issues raised in writing by the Bidders as per the provisions of Clause 2.3.1.

- 2.3.4 Non-attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
- 2.3.5 The BPC is not under any obligation to entertain / respond to suggestions made or to incorporate modifications sought for.
- 2.3.6 In case Bidders need any further clarifications not involving any amendments in respect of final RFP, they should ensure that request for such clarification is submitted through e-mail to the BPC at least ten (10) days prior to the Bid Deadline as mentioned in Clause 2.7.1. The BPC may issue clarifications only, as per its sole discretion, which is considered reasonable by it. Any such clarification issued shall be sent to all the Bidders to whom the RFP has been issued. Clarifications sought after this date shall not be considered in any manner and shall be deemed not to have been received. There shall be no extension in Bid Deadline on account of clarifications sought as per this clause 2.3.6.

## **2.4 Amendment of RFP**

- 2.4.1. At any time before the timeline mentioned in Clause 2.7.1, the BPC may, for any reason, whether at its own initiative or in response to clarifications requested by any Bidder modify or amend the RFP, including the timelines specified in Clause 2.7.2 by issuance of addendum/modification/errata and/or revised document. Such document shall be notified in writing through a letter or fax or e-mail to all the entities to which the RFP has been issued and shall be binding on them. In order to ensure that Bidders have reasonable time to take the modification into account in preparing their Bid, or for any other reasons, BPC may at its discretion, extend the due date for submission of Bid. Late receipt of any addendum/modification/errata and/or revised document will not relieve the Bidder from being bound by that modification.
- 2.4.2. All modifications shall become part of the terms and conditions of this RFP. No interpretation, revision or communication regarding this RFP is valid, unless made in writing.
- 2.4.3. The amendment to the RFP shall be notified to all the Bidders through the electronic bidding platform and shall be binding on them.

## **2.5 The Bidding Process**

The entire bidding process shall be conducted on electronic bidding platform created by MSTC Limited. The Bid shall comprise of the Technical Bid and the Financial Bid. The Bidders shall submit the Technical Bid & Financial Bid through the electronic bidding platform. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. There shall be no physical submission of the Financial Bid.

Evaluation of Technical Bid will be carried out considering the information and documents furnished by the Bidders as required under this RFP. This step would involve responsiveness check, technical and financial evaluation of the details/ documents furnished by the Bidding Company / Bidding Consortium in support of meeting the Qualification Requirements. Bidders meeting the Qualification Requirements, subject to evaluation as specified in Clause 3.2 to 3.4 shall be declared as “Qualified Bidders” and



eligible for opening of Initial Offer. The BPC shall also upload the list of all Qualified Bidders and Non-Qualified Bidders on the bidding portal along with the reasons for non-qualification. Also, the Financial Bids of Qualified Bidders shall be opened after at least 24 hours from the date of declaration of the Technically Qualified Bidders.

The Financial Bid will comprise of two rounds. In the first round the Initial Offer (submitted online along with the Technical Bids) of the responsive bids would be opened and Quoted Transmission Charges of Initial Offer shall be ranked on the basis of ascending order for determination of the Qualified Bidders as provided in Section-III of RFP. The Qualified Bidders, in the first fifty per cent of the ranking (with any fraction rounded off to higher integer) or four Qualified Bidders, whichever is higher, shall qualify for participating in the electronic reverse auction stage and submit their Final Offer.

Provided however, in case only one Bidder remains after the evaluation of Technical Bid as per Clause 3.2, 3.3 and Clause 3.4, the Initial Offer of such Bidder shall not be opened and the matter shall be referred to the Government.

Provided that in the event the number of qualified Technical Bids is between two and four, then each of the qualified Bidder shall be considered as “Qualified Bidders”.

Provided that in the event of identical Quoted Transmission Charges discovered from the Initial Offer having been submitted by one or more Bidders, all such Bidders shall be assigned the same rank for the purposes of determination of Qualified Bidders. In such cases, all the Qualified Bidders who share the same rank till 50% of the rank (with any fraction rounded off to higher integer) determined above, shall qualify to participate in the electronic e-reverse auction stage. In case 50% of the ranks (with any fraction rounded off to higher integer) is having less than 4 (four) Bidders and the rank of the fourth (4<sup>th</sup>) Bidder is shared by more than one (1) Bidder, then all such Bidders who share the rank of the fourth (4<sup>th</sup>) Bidder shall qualify to participate in the electronic reverse auction.

The applicable ceiling for electronic reverse bidding shall be the lowest Quoted Transmission Charges discovered from the Initial Offer received from the Qualified Bidders. The Qualified Bidders shall be permitted to place their Final Offer on the electronic bidding platform, which is lower than zero point two five (0.25) % of the prevailing lowest Quoted Transmission Charges.

The initial period for conducting the e-reverse bidding should be 2 hours which will be extended by 30 minutes from the last received bid time, if the bid is received during the last 30 minutes of the scheduled or extended bid time. Subsequently, it will be extended again by 30 minutes from the latest received bid time.

The technical details with respect to access to such electronic platform are provided in Annexure-A (Technical Details with respect to electronic reverse auction).

In case of any technical clarification regarding access to the electronic reverse auction platform or conduct of the auction process, the Bidders may contact MSTC Limited directly at the address provided in Annexure-A.

### **2.5.1 Bid Formats**

The Bids in response to this RFP will be submitted online through the electronic bidding platform by the Bidders in the manner provided in Clause 2.9. The Bids shall comprise of the following:

### 2.5.2 Technical Bid comprising of:

1. Covering Letter (as per prescribed format enclosed as **Annexure 1**);
2. Letter of Consent from Consortium Members in **Annexure 2**;
3. Power of attorney issued by the Bidding Company or the Lead Member of the Consortium, as the case may be, in favour of the person signing the Bid, in the format attached hereto as **Annexure 3**.

Additionally, in case of a Bidding Consortium, the power of attorney in favour of the Lead Member issued by the other Members of the Consortium shall be provided in as per format attached hereto as **Annexure 4**. Further, the Lead Member shall furnish Board resolution(s) from each Member of the Consortium other than the Lead Member in favour of their respective authorized representatives for executing the POA and signing of the requisite formats.

Provided that in the event the Bidding Company or the Lead Member of the Consortium or any Member of the Bidding Consortium, as the case may be, is a foreign entity, it may issue Board resolutions in place of power of attorney for the purpose of fulfilling these requirements.

4. Bidder's composition and ownership structure in **Annexure 5**
5. Format for Authorization submitted in Non-Judicial stamp paper duly notarized as per **Annexure 5** from the Bidding Company / each Member of the Consortium authorizing the BPC to seek reference from their respective bankers & others.
6. In case of Bidding Consortium, the Consortium Agreement shall be provided in as per format attached hereto as **Annexure 6**
7. Format of Qualification Requirement (**Annexures 7A, 7B, 7C and 7D**)
8. Bidders Undertakings and details of equity investment in Project (as per prescribed formats 1 and 2 of **Annexure 8**);
9. Authorization from Parent / Affiliate of Bidding Company / Member of Bidding Consortium whose technical / financial capability has been used by the Bidding Company / Member of Bidding Consortium (**Annexure 9**).
10. Undertaking from the Technically / Financially Evaluated Entity(ies) **OR** Undertaking from the Ultimate Parent Company, for total equity investment commitment, in the prescribed format in **Annexure – 10**, to meet any shortfall in the equity investment by the Selected Bidder in the {Name of the SPV}.

**Note:** The effective Equity holding of the Selected Bidder in the {name of the SPV},



as specified in Clause 2.5.8.1 shall be computed as per the provisions of Clause 2.5.8.3 of this RFP.

Provided further, in case the Bidding Company or Member of a Consortium, (as the case may be) holds at least twenty six percent (26%) equity in such Technically/ Financially Evaluated Entities, whose credentials have been considered for the purpose of meeting the Qualification Requirements as per the RFP, no such Undertaking shall be required from the Technically / Financially Evaluated Entities.

11. Board resolutions, as per prescribed formats enclosed as Annexure – 11, duly certified by the Company Secretary or any Whole-time Director / Manager (supported by a specific Board Resolution), as applicable to the Bidder and mentioned hereunder,
  - (a) Board resolution from the Bidding Company (and any investing Affiliate / Parent Company / Ultimate Parent Company) committing one hundred percent (100%) in aggregate of the equity requirement for the Project - Format-1 of **Annexure 11**;
  - (b) Board resolutions from each of the Consortium Member of the Bidding Consortium (and any investing Affiliate / Parent Company / Ultimate Parent Company) together committing to one hundred percent (100%) in aggregate of equity requirement for the Project, in case Bidder is a Bidding Consortium - Format-1 of **Annexure 11**;
  - (c) In either of the cases as in (a) or (b) above as applicable, Board resolutions as per Format 2 of **Annexure 11** for total equity investment commitment from the Technically / Financially Evaluated Entity(ies) whose technical / financial credentials had been considered for the purpose of meeting Qualification Requirements as per the RFP

**OR**

Board resolutions as per Format 2 of **Annexure 11** from the Parent Company or the Ultimate Parent Company for total equity investment commitment.

Provided that such Board resolutions, as specified in (a) or (b) or (c) above, in case of a foreign entity, shall be supported by an unqualified opinion issued by an independent legal counsel practicing in the relevant country, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.

For clarity sake, illustrations identifying which Board Resolution shall be applicable in typical cases are provided in **Annexure 11A**.

12. Format for Illustration of Affiliates at the most seven (7) days prior to Bid Deadline, duly certified by Company Secretary and supported by documentary evidence (**Annexure 12**).

Certified copy of the Register of Members / Demat Account Statement, Share Certificate, Annual Return filed with ROC etc. submitted as documentary evidence along with **Annexure 12**.

13. Disclosure as per **Annexure 13** regarding participation of any related companies in this bidding process.
14. Bid Bond, as per the prescribed format at **Annexure 14** ~~or Bid Security Declaration as per prescribed format at Annexure-14A (as applicable);~~
15. Checklist for Technical Bid submission requirements as per **Annexure 16**.
16. Last three (3) financial years' unconsolidated / consolidated audited annual accounts / statements, as the case may be, of the Financially Evaluated Entity / Technical Evaluated Entity
17. Unconsolidated audited annual accounts of both the TEE and the Bidding Company/Lead member, as applicable, for the financial years in which financial closure was achieved and the financial year in which the said project was completed / commissioned.
18. Copy of the Memorandum and Articles of Association and certificate of incorporation or other organizational document (as applicable), including their amendments, certified by the Company Secretary of Bidding Company or each Member in case of a Consortium including Lead Member.
19. For each project listed in Annexure 7(D), certified true copy of the certificates of final acceptance and / or certificates of good operating performance duly issued by owners or clients for the project, duly signed by authorized signatory.

In addition to the online submission of above formats through the electronic platform, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI. In case, there is a discrepancy between the online submission and physical documents, the bid would be outrightly rejected and the bidder shall be construed to have engaged in the fraudulent practice as defined in Clause 2.19.3 with consequences as mentioned in Clause 2.19.2.

### **2.5.3 Financial Bid (as per prescribed format at Annexure-21)**

Financial Bid shall comprise of: (i) the Initial Offer; and (ii) the Final Offer. The Initial Offer is required to be submitted along with the Technical Bid. It is hereby clarified that the Financial Bid will comprise of two rounds. In the first round the Initial Offer of the responsive bids would be opened and Quoted Transmission Charges of Initial Offer shall be ranked on the basis of ascending order for determination of the Qualified Bidders as provided in Section-III of RFP.

In accordance with clause 2.5 of this RFP, the qualified Bidders shall be eligible to participate in the electronic reverse auction and submit their Final Offer.

The applicable ceiling for electronic reverse bidding shall be the lowest Quoted Transmission Charges discovered from the Initial Offer received from the Qualified Bidders. The Qualified Bidders shall be permitted to place their Final Offer on the

electronic bidding platform, which is lower than zero point two five (0.25) % of the prevailing lowest Quoted Transmission Charges.

The initial period for conducting the e-reverse bidding should be 2 hours which will be extended by 30 minutes from the last received bid time, if the bid is received during the last 30 minutes of the scheduled or extended bid time. Subsequently, it will be extended again by 30 minutes from the latest received bid time.

The Bidders shall inter-alia take into account the following while preparing and submitting the Initial Offer and Final Offer of Financial Bid :-

- a. The Bidders shall quote single annual Quoted Transmission Charges for a period of 35 years commencing from the Scheduled COD of the Project.
- b. The Quoted Transmission Charges as per the format at Annexure-21 shall be inclusive of all charges and no exclusions shall be allowed. The Bidders shall take into account all costs including capital and operating, statutory taxes, duties, levies. Availability of the inputs necessary for operation and maintenance of the Project should be ensured by the TSP at the Project site and all costs involved in procuring the inputs (including statutory taxes, duties, levies thereof) at the Project site must be included in the Quoted Transmission Charges.
- c. Annexure 21 duly digitally signed by authorized signatory.

2.5.4 Wherever information has been sought in specified formats, the Bidders shall fill in the details as per the prescribed formats and shall refrain from referring to any other document for providing any information required in the prescribed format.

### **2.5.5 Transmission Charges**

- 2.5.5.1. The Transmission Charges shall be specified in the Transmission Service Agreement and shall be payable to the TSP in Indian Rupees only. The Bidders shall quote single Transmission Charges as per the format at Annexure – 21.
- 2.5.5.2. The Transmission Charges of the Selected Bidder shall be inserted in Schedule 5 of the Transmission Service Agreement.

### **2.5.6 Bidders may note that:**

- a) All the information and documents in Bid shall be submitted in English language only.
- b) Bidders shall mention the name, designation, telephone number, fax number, email address of the authorized signatory and complete address of the Bidder in the covering letter.
- c) All pages of the Bid submitted shall be initialed and stamped by the authorized signatory on behalf of the Bidder.
- d) A Bidder shall submit only one Bid in the same bidding process, either individually as Bidding Company or as a Member of a Bidding Consortium.

- e) The technical and financial capability of a particular company / particular project (Parent and/ or Affiliate) shall not be used directly or indirectly by more than one Bidder/ Member of a Bidding Consortium including Lead Member / Bidding Company.
- f) This Request for Proposal (RFP) document is not transferable. The RFP document and the information contained therein is for the use only by the Bidder to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors). In the event that the recipient does not continue with its involvement in the Project, this RFP document must be kept confidential.
- g) Though adequate care has been taken while preparing this RFP document, the Bidder shall satisfy himself that the document is complete in all respects. Intimation of any discrepancy shall be given to the BPC immediately. If no intimation is received from any Bidder within ten (10) days from the date of issue of RFP document, it shall be considered that the RFP document is complete in all respects and has been received by the Bidder.
- h) Bids submitted by the Bidder and opened on scheduled date and time as stipulated in this RFP shall become the property of the BPC and BPC shall have no obligation to return the same to the Bidder.
- i) If any Bidder conceals any material information or makes a wrong statement or misrepresents facts or makes a misleading statement in its Bid, in any manner whatsoever, the BPC reserves the right to reject such Bid or cancel the Letter of Intent, if issued. If such event is discovered after the Effective Date, consequences specified in Transmission Service Agreement shall apply.
- j) If for any reason the Bid of the Bidder with the lowest Quoted Transmission Charges is not selected or Letter of Intent issued to such Selected Bidder is cancelled or such Bidder withdraws its Bids, the BPC may :-
  - i. Invite all the remaining Bidders to revalidate or extend their respective Bid Security, as necessary, and match the Bid of the Bidder with the lowest Quoted Transmission Charges (the "second round of bidding") with following cases:
    - If in the second round of bidding, only one Bidder matches the Bid of the Bidder with lowest Quoted Transmission Charges, it shall be the Selected Bidder.
    - If two or more Bidders match the Bid of the Bidder with the lowest Quoted Transmission Charges in the second round of bidding, then the Bidder whose Quoted Transmission Charges was lower as compared to other Bidder(s) in the first round of bidding shall be the Selected Bidder. For example, if the third and fifth lowest Bidders in the first round of bidding offer to match the Bid of the Bidder with lowest Quoted Transmission Charges in the second round of bidding, the said third lowest Bidder shall be the Successful Bidder.
    - In the event that no Bidder offers to match the Bid of the Bidder with the lowest Quoted Transmission Charges in the second round of bidding, the BPC may,

in its discretion, invite fresh Bids (the “third round of bidding”) from all Bidders except the Bidder which quoted the lowest Quoted Transmission Charges in the first round of bidding. In case the Bidders are invited for the third round of bidding to revalidate or extend their Bid Security, as necessary, and offer fresh Bids, they shall be eligible for submission of fresh Bids provided, however, that in such third round of bidding only such Bids shall be eligible for consideration which are lower than the Quoted Transmission Charges of the second lowest Bidder in the first round of bidding; or;

- ii. Annul the bid process; or
- iii. Take any such measure as may be deemed fit in the sole discretion of the BPC<sup>1</sup>
- k) The BPC may, at its sole discretion, ask for additional information / document and/or seek clarifications from a Bidder after the Bid Deadline, inter alia, for the purposes of removal of inconsistencies or infirmities in its Bid. However, no change in the substance of the Quoted Transmission Charges shall be sought or permitted by the BPC.
- l) Non submission and/or submission of incomplete data/ information required under the provisions of RFP shall not be construed as waiver on the part of BPC of the obligation of the Bidder to furnish the said data / information unless the waiver is in writing.
- m) Bidders shall familiarize itself with the procedures and time frames required to obtain all Consents, Clearances and Permits.
- n) All Bidders are required to ensure compliance with the standards and codes mentioned in Clause 1.6.1.2.
- o) BPC reserves the right to reject all Bids and/or annul the process of tariff based competitive bidding for selection of Bidder as TSP to execute the Project without assigning any reason. BPC shall not bear any liability, whatsoever, in this regard.
- p) Foreign companies submitting the Bid are required to follow the applicable law in their country for execution of POA, Consortium Agreement and affixation of Common Seal (wherever required) and in such cases, their Bid should be supported by an unqualified opinion issued by an independent legal counsel practicing in the relevant country, stating that execution of such POA, Consortium Agreement and the authorizations granted therein are true and valid. Foreign companies executing POA outside India shall necessarily pay the adequate stamp charges in India as per the provisions of Stamp Act.

## **2.5.7 Bidders to inform themselves fully**

- 2.5.7.1. The Bidders shall make independent enquiry and satisfy themselves with respect to all the required information, inputs, conditions and circumstances and factors that may have any effect on his Bid. Once the Bidders have submitted their Bids, the Bidders shall be deemed to have inspected and examined the site conditions (including but not limited to its surroundings, its geological condition and the adequacy of transport facilities to the site), the laws and regulations in force in India, the transportation facilities available in

<sup>1</sup> BPC shall record reasons for the same.

India, the grid conditions, the adequacy and conditions of roads, bridges, railway sidings, ports, etc. for unloading and/or transporting heavy pieces of material and has based its design, equipment size and fixed its price taking into account all such relevant conditions and also the risks, contingencies and other circumstances which may influence or affect the transmission of power. Accordingly, each Bidder acknowledges that, on being selected as Successful Bidder and on acquisition of one hundred percent (100%) of the equity shares of the {name of the SPV}, the TSP shall not be relieved from any of its obligations under the RFP Project Documents nor shall the TSP be entitled to any extension in Scheduled COD mentioned in this RFP or financial compensation for any reason whatsoever.

- 2.5.7.2. In their own interest, the Bidders are requested to familiarize themselves with all relevant laws of India, including without limitation, the Electricity Act 2003, the Income Tax Act 1961, the Companies Act, 1956 / Companies Act, 2013 (as the case may be), Environment Protection Act 1986 and Forest (Conservation) Act, 1980, the Customs Act, the Foreign Exchange Management Act, Land Acquisition Act, 1894, the Indian Telegraph Act 1885, Labor & Employment Laws of India, [Insurance Act] the regulations/standards framed by the Commissions and CEA, all other related acts, laws, rules and regulations prevalent in India, as amended from time to time.

In addition to the above, the Bidders are required to familiarize themselves with all relevant technical codes and standards, including but not limited to the Grid Code / State Grid Code, Central Electricity Authority (Installation and Operations of Meters) Regulations, 2006, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007, Central Electricity Regulatory Commission Grant of Connectivity, Long-term Access and Medium - Term Open Access in Inter-State Transmission and related matters) Regulations, 2009, Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulation, 2010, Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020, Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 and other relevant Rules/ Regulations/ Guidelines issued by the Central Government, the CERC and the CEA and amendments thereof.

The BPC shall not entertain any request for clarifications from the Bidders regarding the above laws / acts / rules / regulations / standards. Non-awareness of the same shall not be a reason for the Bidder to request for extension in Bid Deadline. The Bidders undertake and agree that, before submission of their Bid, all such factors as generally brought out above, have been fully investigated and considered while submitting their Bids.

- 2.5.7.3. The Survey Report has been prepared in good faith, and on best endeavor basis. Neither BPC & Nodal Agency nor their employees or advisors/consultants make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions made in the Survey Report, or the accuracy, completeness or reliability of information contained therein, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of such Survey Report, even if any loss or damage is caused to the Bidders by any act or omission on their part.
- 2.5.7.4. Bidders shall make best efforts and carry out its own due diligence upon survey report provided by BPC and shall consider all possible techno-commercial factors before



submission of Bid. Bidders may also visit the route of the Transmission Lines associated with the Project and the surrounding areas and obtain / verify all information which they deem fit and necessary for the preparation of their Bid. Bidders may also carry out required surveys and field investigation for submission of their Bid. Bidders may also opt for any other route and is not bound to follow the route suggested in survey report provided by BPC.

- 2.5.7.5. Failure to investigate, examine and to inspect site or subsurface conditions fully shall not be grounds for a Bidder to alter its Bid after the Bid Deadline nor shall it relieve a Bidder from any responsibility for appropriately eliminating the difficulty or costs of successfully completing the Project.
- 2.5.7.6. The Selected Bidder shall obtain all necessary Consents, Clearances and Permits as required. The Bidders shall familiarize itself with the procedures and time frame required to obtain such Consents, Clearances and Permits.
- 2.5.7.7. The technical requirements of integrated grid operation are specified in the Indian Electricity Grid Code (IEGC). The Bidders should particularly acquaint themselves with the requirements of connection conditions, operating code for regional grids, scheduling and dispatch instructions/codes, etc. The Bidders are also advised to fully familiarize themselves with the real time grid conditions in the country. Information regarding grid parameters such as voltage and frequency is available on the websites of Regional / State Load Despatch Centres.

## **2.5.8 Minimum Equity holding/Equity Lock-in**

- 2.5.8.1. (a) The aggregate equity share holding of the Selected Bidder, in the issued and paid up equity share capital of {name of the SPV} shall not be less than Fifty one percent (51%) up to a period of (1) one year after COD of the Project;
- (b) In case the Selected Bidder is a Bidding Consortium, then any Member (other than the Lead Member) of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified in (a) above.
- (c) If equity is held by the Affiliates, Parent Company or Ultimate Parent Company, then subject to the second proviso of this Clause 2.5.8.1 (c), such Affiliate, Parent Company or Ultimate Parent Company shall be permitted to transfer its shareholding in {name of the SPV} to another Affiliate or to the Parent Company / Ultimate Parent Company. If any such shareholding entity, qualifying as an Affiliate / Parent Company / Ultimate Parent Company, is likely to cease to meet the criteria to qualify as an Affiliate / Parent Company / Ultimate Parent Company, the shares held by such entity shall be transferred to another Affiliate / Parent Company / Ultimate Parent Company.

Provided that in case the Lead Member or Bidding Company is holding equity through Affiliate/s, Ultimate Parent Company or Parent Company, such restriction shall apply to such entities.

Provided further, that the aggregate equity share holding of the Bidding Consortium or a Bidding Company in the issued and paid up equity share capital of {name of the SPV} shall not be less than fifty one percent (51%) up to a period of one (1) year after

COD of the Project and the lead Member of the Consortium shall have the equity share holding not less than twenty six percent (26%). In case the Selected Bidder is a Bidding Consortium, then any Member (other than the Lead Member) of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified in (a) above.

(d) All transfer(s) of shareholding of {name of the SPV} by any of the entities referred to above, shall be after prior written intimation to the Nodal Agency.

2.5.8.2. The Selected Bidder may invest in the equity share capital of {name of the SPV} through its Affiliate(s) or Ultimate Parent Company or Parent Company. Details of such investment will have to be specified in the Technical Bid as per Format 2 of Annexure 8 of the RFP. If the Selected Bidder so invests through any Affiliate(s) or Ultimate Parent Company or Parent Company, the Selected Bidder shall be liable to ensure that minimum equity holding/lock-in limits specified in Clause 2.5.8.1 and as computed as per the provisions of Clause 2.5.8.3 are still maintained.

2.5.8.3. For computation of effective Equity holding, the Equity holding of the Selected Bidder or its Ultimate Parent Company in such Affiliate(s) or Parent Company and the equity holding of such Affiliate (s) or Ultimate Parent Company in {name of the SPV} shall be computed in accordance with the example given below:

If the Parent Company or the Ultimate Parent Company of the Selected Bidder A directly holds thirty percent (30%) of the equity in {name of the SPV} then holding of Selected Bidder A in {name of the SPV} shall be thirty percent (30%);

If Selected Bidder A holds thirty percent (30%) equity of the Affiliate and the Affiliate holds fifty percent (50%) equity in {name of the SPV}, then for the purposes of ascertaining the minimum equity/equity lock-in requirements specified above, the effective holding of Bidder A in {name of the SPV} shall be fifteen percent (15%), (i.e.,  $30\% * 50\%$ );

2.5.8.4. The provisions as contained in this Clause 2.5.8 and Article 19.1 of the Transmission Service Agreement shall override the terms of the Consortium Agreement submitted by the Bidder as part of the RFP.

## 2.6 Project Schedule

2.6.1. All Elements of the Project are required to be commissioned progressively as per the schedule given in the following table;



Sl. No.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1.	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV & 1x125 MVA, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2.	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

The payment of Transmission Charges for any Element irrespective of its successful commissioning on or before its Scheduled COD shall only be considered after successful commissioning of the Element(s) which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for overall Project: 24 months from the date of SPV Transfer

Note: List of Element(s) along with the critical Element(s) to be provided by CEA

## 2.7 Due dates

2.7.1. The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e. on or before 1400 hours (IST) on 24.07.2023. In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI.

2.7.2. Important timelines are mentioned below:

Date	Event
22.05.2023	Issuance of RFP
12.06.2023	Submission of written clarifications/amendments, if any, on the RFP / RFP Project Documents by Bidders so as to reach BPC by 1700 hours. Such written clarifications/amendments shall be in the format provided in Annexure-20.
19.06.2023	Pre-Bid meeting(s)
30.06.2023	Issue of written clarifications and revised RFP documents
10.07.2023	Issue of final RFP Project Documents

Date	Event
24.07.2023	Submission of Bid (Online submission of Bid through electronic bidding portal)
24.07.2023	Opening of Technical Bid
01.08.2023	Short listing and announcement of Qualified Bidders on bidding portal
02.08.2023	Opening of Financial Bid - Initial Offer
03.08.2023	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.
08.08.2023	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer
11.08.2023	Selection of Successful Bidder and issue of LOI
21.08.2023	Signing of RFP Project Documents and transfer of {name of the SPV}

- 2.7.3. To enable BPC to meet the schedule, all Bidders are expected to respond expeditiously during the bidding process. If any milestone/activity falls on a day which is not a working day or which is a public holiday then the milestone/activity shall be achieved/ completed on the next working day.

## 2.8 Validity of the Bid

- 2.8.1. The Bid shall remain valid for a period of one hundred and eighty (180) days from the Bid Deadline. The BPC reserves the right to reject any Bid which does not meet aforementioned validity requirement.
- 2.8.2. The BPC may solicit the Bidders' consent for an extension of the period of validity of the Bid. The request and the response, thereafter, shall be in writing. In the event any Bidder refuses to extend its Bid validity as requested by the BPC, the BPC shall not be entitled to invoke the Bid Bond. A Bidder accepting the BPC's request for validity extension shall not be permitted to modify its Bid and such Bidder shall, accordingly, extend the validity of the Bid Bond as requested by the BPC within seven (7) days of such request, failing which the Bid shall not be considered as valid.

## 2.9 Method of Submission

- 2.9.1. Both the Technical and Financial Bids duly filled in, all formats and supporting shall be scanned and uploaded online through electronic bidding platform in the manner specified in Annexure A
- 2.9.2. It may be noted that Technical Bid shall not contain any information/document relating to Financial Bid. If Technical Bid contains any such information/documents, the BPC shall not be responsible for premature opening of the Financial Bid.

All pages of the Bid, except for the Bid Bond (Annexure 14) and any other document executed on non-judicial stamp paper, forming part of the Bid and corrections in the Bid, if any, must be signed by the authorized signatory on behalf of the Bidder. It is clarified that the same authorized signatory shall sign all pages of the Bid. However, any published document submitted in this regard shall be signed by the authorized signatory at least on the first and last page of such document.

- 2.9.3. No change or supplemental information to a Bid already submitted will be accepted after the Bid Deadline, unless the same is requested for by the BPC as per Clause 2.5.6 (k).

Provided that a Bidder shall always have the right to withdraw / modify its Bid before the Bid Deadline. No Technical Bid or Initial Offer shall be modified, substituted or withdrawn by the Bidder on or after the Bid Deadline.

## 2.10 Preparation cost

- 2.10.1. The Bidders shall be responsible for all the costs associated with the preparation of the Bid and participation in discussions and attending pre-bid meetings, and finalization and execution of the RFP Project Documents (other than the TSA), etc. BPC shall not be responsible in any way for such costs, regardless of the conduct or outcome of the process of tariff based competitive bidding for selection of Bidder as TSP as per Bidding Guidelines.
- 2.10.2. The cost of this RFP is Rupees Five Lakh Only (Rs. 5,00,000) or U.S. Dollar Seven Thousand Only (US\$ 7,000) plus GST as per applicable rate, which shall be non-refundable. This amount shall be paid via electronic transfer to the following Bank Account:

Bank Name, Address & Branch	IDFC First Bank Limited Birla Towers, 4 <sup>th</sup> Floor East Tower & LGF West Tower, Barakhamba Road, New Delhi – 110001
Bank Account Name	REC Power Development & Consultancy Limited (formerly REC Power Distribution Company Limited)
Bank Account No	10000697415
Bank IFSC Code No	IDFB0020101

Immediately after issuance of RFP document, the Bidder shall submit the Pre-Award Integrity Pact in the format as prescribed in Annexure B, which shall be applicable for and during the bidding process, duly signed on each page by any whole-time Director / Authorized Signatory, duly witnessed by two persons, and shall be submitted by the Bidder in two (2) originals in a separate envelope, duly superscripted with Pre-Award Integrity Pact. The Bidder shall submit the Pre-Award Integrity Pact on non-judicial stamp paper of Rs. 100/- each duly purchased from the National Capital Territory of Delhi. In case the Bidder is in a consortium, the Pre-Award Integrity Pact shall be signed and submitted by each member of the Consortium separately.

## 2.11 Bid Bond

- 2.11.1. Each Bidder shall submit the Bid accompanied by Bid Bond issued by any of the Banks listed in Annexure-17. The Bid Bond shall be valid for a period of thirty (30) days beyond the validity of the Bid.
- 2.11.2. Subject to the provisions of Clause 2.15.5, the Bid Bond may be invoked by the BPC or its authorized representative, without any notice, demure, or any other legal process upon occurrence of any of the following:
- Bidder withdraws during the period of Bid Validity as specified in this RFP or as extended by mutual consent of the respective Bidder(s) and the BPC

- Failure to execute the Share Purchase Agreement as per the provisions of Clause 2.15.2; or
- Failure to furnish the Contract Performance Guarantee as per Clause 2.12; or
- Failure to acquire one hundred percent (100%) equity shares of {name of the SPV} , along with all its related assets and liabilities, in accordance with the provisions of Clause 2.15.2; or
- Failure to comply with the provisions of Clause 2.15.5 and Clause 2.15.6, leading to annulment of the award of the Project.
- Bidders submitting any wrong information or making any misrepresentation in their Bid as mentioned in Clause 2.5.6.

Intimation of the reasons of the invocation of the Bid Bond shall be given to the Selected Bidder by the BPC within three (3) working days after such invocation.

2.11.3. The Bid Bond of the Selected Bidder shall be returned on submission of the Contract Performance Guarantee as per Clause 2.12 and the relevant provisions of the Transmission Service Agreement.

2.11.4. The Bid Bond of all the Bidders, whose Bids are declared non-responsive, shall be returned within a period of thirty (30) days after the date on which the Financial Bids are opened.

2.11.5. The Bid Bond of all unsuccessful Bidders shall be returned and released by the BPC on the same day on which the {name of the SPV} is transferred to the Selected Bidder. The Bid Bond of the Successful Bidder shall be returned on submission of Contract Performance Guarantee as per Clause 2.12 of this RFP and the provisions of the Transmission Service Agreement.

## **2.12 Contract Performance Guarantee**

2.12.1. Within ten (10) days from the date of issue of the Letter of Intent, the Selected Bidder, on behalf of the TSP, will provide to the Nodal Agency the Contract Performance Guarantee for an amount of Rs. **22.00** Crore (Rupees Twenty-Two Crore Only). The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the COD of the Project and thereafter shall be dealt with in accordance with the provisions of the Transmission Service Agreement. The Contract Performance Guarantee shall be issued by any of the banks listed in Annexure-17.

2.12.2. In case the Selected Bidder is unable to obtain the Contract Performance Guarantee for the total amount from any one bank specified in Annexure-17, the Selected Bidder may obtain the same from not more than three (3) banks specified in Annexure-17.

## **2.13 Opening of Bids**

- 2.13.1. Technical Bid will be opened by the Bid Opening Committee as per the following time schedule and in the office of Central Electricity Authority, in the online presence of Bidders' representatives who wish to attend:

Opening of Envelope (Technical Bid): 1430 hours (IST) on 24.07.2023

or such other dates as may be intimated by BPC to the Bidders.

In the event of any of above dates falling on a day which is not a working day or which is a public holiday, then the bids shall be opened on the next working day at the same venue and time.

Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on 24.07.2023 in the office of CEA.

- 2.13.2. The following information from each Bid will be read out to all the Bidders at the time of opening of Technical Bid:

- Name of the Bidding Company / Consortium Members in case of Bidding Consortium.

**Information to be provided after opening of Initial Offer:**

Only the lowest Initial Offer (s) shall be communicated to all the Qualified Bidders to participate in the e-reverse bidding process. During the e-reverse bidding process only the lowest prevailing bid should be visible to all the bidders on the electronic platform.

## 2.14 Enquiries

Written clarifications on the RFP and other RFP Project Documents as per Clause 2.3 and 2.4 may be sought from:

Chief Executive Officer,  
REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
REC Corporate Head Quarter,  
D Block, Plot No. I – 4,  
Sec – 29 Gurugram – 122 001  
Email: pshariharan@recpdcl.in & tbc@recpdcl.in

## 2.15 Other Aspects

- 2.15.1. The draft of the Transmission Service Agreement has been attached to this RFP. In addition to above, the following documents have also been attached to this RFP:

## a) Share Purchase Agreement

When the drafts of the above RFP Project Documents are provided by the BPC, these RFP Project Documents shall form part of this RFP as per Formats – 1 & 2 of Annexure 20.

Upon finalization of the RFP Project Documents after incorporating the amendments envisaged in Clause 2.4 of this RFP, all the finalized RFP Project Documents shall be provided by BPC to the Bidders at least fifteen (15) days prior to the Bid Deadline.

The Transmission Service Agreement and Share Purchase Agreement shall be signed in required number of originals so as to ensure that one (1) original is retained by each party to the Agreement(s) on the date of transfer of SPV.

## 2.15.2. Within ten (10) days of the issue of the Letter of Intent, the Selected Bidder shall:

- a) provide the Contract Performance Guarantee in favour of the Nodal Agency as per the provisions of Clause 2.12;
- b) execute the Share Purchase Agreement and the Transmission Service Agreement;
- c) acquire, for the Acquisition Price, one hundred percent (100%) equity shareholding of {name of the SPV} from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of {name of the SPV}, along with all its related assets and liabilities;

Stamp duties payable on purchase of one hundred percent (100%) of the equity shareholding of {name of the SPV}, along with all its related assets and liabilities, shall also be borne by the Selected Bidder.

Provided further that, if for any reason attributable to the BPC, the above activities are not completed by the Selected Bidder within the above period of ten (10) days as mentioned in this Clause, such period of ten (10) days shall be extended, on a day for day basis till the end of the Bid validity period.

## 2.15.3. After the date of acquisition of the equity shareholding of {name of the SPV}, along with all its related assets and liabilities, by the Selected Bidder,

- i. the authority of the BPC in respect of this Bid Process shall forthwith cease and any actions to be taken thereafter will be undertaken by the Nodal Agency,
- ii. all rights and obligations of {name of the SPV}, shall be of the TSP,
- iii. any decisions taken by the BPC prior to the Effective Date shall continue to be binding on the Nodal Agency and
- iv. contractual obligations undertaken by the BPC shall continue to be fulfilled by the TSP.
- v. Further, the TSP shall execute the Agreement(s) required, if any, under Central

Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time.

- 2.15.4. Within five (5) working days of the issue of the acquisition of the SPV by the Successful Bidder, the TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section – 63 of The Electricity Act 2003.
- 2.15.5. If the Selected Bidder / TSP fails or refuses to comply with any of its obligations under Clauses 2.15.2, 2.15.3 and 2.15.4, and provided that the other parties are willing to execute the Share Purchase Agreement and REC Power Development and Consultancy Limited is willing to sell the entire equity shareholding of {name of the SPV}, along with all its related assets and liabilities, to the Selected Bidder, such failure or refusal on the part of the Selected Bidder shall constitute sufficient grounds for cancellation of the Letter of Intent. In such cases, the BPC / its authorized representative(s) shall be entitled to invoke the Bid Bond of the Selected Bidder.
- 2.15.6. If the TSP fails to obtain the Transmission License from the Commission, it will constitute sufficient grounds for annulment of award of the Project.
- 2.15.7. The annulment of award, as provided in Clauses 2.15.5 and 2.15.6 of this RFP, will be done by the Government on the recommendations of National Committee on Transmission. However, before recommending so, National Committee on Transmission will give an opportunity to the Selected Bidder / TSP to present their view point.
- 2.15.8. The annulment of the award, under Clause 2.15.5 or 2.15.6 of this RFP, shall be sufficient grounds for blacklisting the bidder, whose award has been annulled, for a period of five years or more, as decided by the National Committee on Transmission, provided that the blacklisting shall be done only after giving the bidder an opportunity for showing cause.

## **2.16 Confidentiality**

- 2.16.1. The parties undertake to hold in confidence this RFP and RFP Project Documents and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:
  - a) to their professional advisors;
  - b) to their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities;
  - c) disclosures required under Law, without the prior written consent of the other parties of the concerned agreements.

Provided that the TSP agrees and acknowledges that the Nodal Agency may at any time, disclose the terms and conditions of the RFP and RFP Project Documents to any person, to the extent stipulated under the Law or the Bidding Guidelines.

## **2.17 Right of the BPC to reject any Bid**



BPC reserves the right to reject all or any of the Bids/ or cancel the RFP without assigning any reasons whatsoever and without any liability.

- 2.18** Non submission and/or submission of incomplete data/ information required under the provisions of RFP shall not be construed as waiver on the part of BPC of the obligation of the Bidder to furnish the said data / information unless the waiver is in writing.

## **2.19 Fraudulent and Corrupt Practices**

- 2.19.1. The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bid process and subsequent to the issue of the LoI Notwithstanding anything to the contrary contained herein, or in the LoI, the BPC shall reject a Bid, withdraw the LoI, as the case may be, without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bid process. In such an event, the BPC shall forfeit the Bid Bond, without prejudice to any other right or remedy that may be available to the BPC hereunder or otherwise.

- 2.19.2. Without prejudice to the rights of the BPC under Clause 2.19.1 hereinabove and the rights and remedies which the BPC may have under the LoI, if a Bidder is found by the BPC to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bid process, or after the issue of the LoI, such Bidder & its Affiliates shall not be eligible to participate in any tender or RFP issued by any BPC for an indefinite period from the date such Bidder is found by the BPC to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

- 2.19.3. For the purposes of this Clause 2.19, the following terms shall have the meaning hereinafter respectively assigned to them:

- a) **“corrupt practice”** means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bid process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the BPC who is or has been associated or dealt in any manner, directly or indirectly with the Bid process or the LoI or has dealt with matters concerning the Transmission Service Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the BPC, shall be deemed to constitute influencing the actions of a person connected with the Bid Process); or (ii) engaging in any manner whatsoever, whether during the Bid Process or after the issue of the LoI or after the execution of the Transmission Service Agreement, as the case may be, any person in respect of any matter relating to the Project or the LoI or the Transmission Service Agreement, who at any time has been or is a legal, financial or technical adviser of the BPC in relation to any matter concerning the Project;



- b) **"Fraudulent practice"** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bid process;
- c) **"Coercive practice"** means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bid process;
- d) **"undesirable practice"** means (i) establishing contact with any person connected with or employed or engaged by the BPC with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bid process; or (ii) having a Conflict of Interest; and
- e) **"Restrictive practice"** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bid process.

### **SECTION - 3**

#### **EVALUATION OF THE TECHNICAL AND FINANCIAL BID**

## SECTION 3

### 1. EVALUATION OF BID

#### 3.1. The evaluation process of Technical Bid comprises the following five steps:

- Step I – Responsiveness check
- Step II- Compliance with submission requirements
- Step III– Evaluation of Technical Bids
- Step IV– Evaluation of Financial Bids
- Step V – Bidder Selection

#### 3.2. STEP I – Responsiveness check

The Technical Bid submitted by the Bidder shall be initially scrutinized to establish “Responsiveness”. Subject to clause 2.5.6 (k), any of the following conditions shall cause the Technical Bid to be “Non-responsive”:

- a) Technical Bid that are incomplete.
- b) Technical Bid not signed by authorized signatory and / or stamped in the manner indicated in this RFP.
- c) All pages of the Technical Bid submitted but not initialed by the authorized signatories on behalf of the Bidder.
- d) Technical Bid not including the covering letter as per Annexure 1.
- e) Technical Bid submitted by a Bidding Consortium not including the Consortium Agreement.
- f) Technical Bid contains material inconsistencies in the information and documents submitted by the Bidder, affecting the Qualification Requirements.
- g) Bidder submitting or participating in more than one Bid either as a Bidding Company or as a Member of Bidding Consortium.
- h) More than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent/Affiliate.
- i) Information not submitted in formats specified in the RFP.
- j) Applicable Board resolutions, or any other document, as provided in Clause 2.5.2, not being submitted;
- k) Bid not accompanied by a valid Bid Bond or Bid Security Declaration, as applicable;
- l) Non submission of power of attorney, supported by a Board resolution;
- m) Bid validity being less than that required as per Clause 2.8 of this RFP;
- n) Bid not containing Format-1 (Bidders' Undertakings) of Annexure-8;

- o) Bidder having Conflict of Interest
- p) The Bidder has not submitted a disclosure as per Annexure 13.
- q) Bidders delaying in submission of additional information or clarifications sought by the BPC.
- r) If the Bidder makes any misrepresentation as specified in Clause 3.7.
- s) Bid being conditional in nature.
- t) More than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent/Affiliate.

### **3.3. STEP II - Compliance with submission requirements**

Each Bidder's Technical Bid shall be checked for compliance with the submission requirements set forth in this RFP before the evaluation of Technical Bid is taken up. Annexure 16 and Annexure 11A shall be used to check whether each Bidder meets the stipulated requirements.

### **3.4. STEP III -Evaluation of Technical Bid**

Evaluation of Technical Bid will be carried out considering the information and documents furnished by the Bidders as required under this RFP. This step would involve technical and financial evaluation of the details/ documents furnished by the Bidding Company / Bidding Consortium in support of meeting the Qualification Requirements

#### **3.4.1. Interpolation of financial data.**

For the Qualification Requirements data provided by the Bidders in foreign currency, equivalent rupees of Networth will be calculated using bills selling exchange rates (card rate) USD/INR of State Bank of India prevailing on the date of closing of the accounts for the respective financial year as certified by their Banker.

For the purpose of calculating the aggregate capital expenditure/construction experience of the projects completed/ commissioned where such projects are executed outside India and capital expenditure is denominated in foreign currency, bills selling exchange rates (card rate) USD/INR of State Bank of India prevailing on the date of closing of the financial year in which the projects were completed and as certified by their Banker shall be considered.

For the projects executed in the current financial year bills selling (card rate) USD/INR of State Bank of India prevailing on seven (7) days prior to the last date of submission of Technical Bid and as certified by their Banker shall be considered.

For currency other than USD, Bidders shall convert such currency into USD as per the exchange rates certified by their Banker prevailing on the relevant date and used for such conversion. Such Bidders shall submit necessary certification from their Banker for the exchange rate used in the conversation.

If the exchange rate for any of the above dates is not available, the rate for the immediately available previous day shall be taken into account.

3.4.2. Bidders meeting the Qualification Requirements, subject to evaluation as specified in Clauses 3.2 to 3.4 shall be declared as Qualified Bidders and eligible for opening of Initial Offer.

3.4.3. The BPC shall upload the list of all Qualified Bidders and Non-Qualified Bidders on the bidding portal along with the reasons for non-qualification.

### **3.5. STEP IV - Evaluation of Financial Bids**

3.5.1. The Bids which have been found Qualified by the BPC, based on the Steps I to III as specified above in Clauses 3.2 to 3.4, shall be opened and Quoted Transmission Charges of such Initial Offer shall be ranked on the basis of the ascending Initial Offer submitted by each Qualified Bidder.

Based on such ranking of the Qualified Bidders, in the first fifty per cent of the ranking (with any fraction rounded off to higher integer) or four Qualified Bidders, whichever is higher, shall qualify for participating in the electronic reverse auction.

Provided however, in case only one Bidder remains after the Evaluation of Technical Bid (Steps 1 to III) as per Clause 3.2 to 3.4, the Initial Offer of such Bidder shall not be opened and the matter shall be referred to the Government.

Provided that in the event the number of Qualified Bidders is between two and four, then each of the responsive Bidder shall be considered as Qualified Bidders.

Provided that in the event of identical Quoted Transmission Charges discovered from the Initial Offer having been submitted by one or more Bidders, all such Bidders shall be assigned the same rank for the purposes of determination of Qualified Bidders. In such cases, all Qualified Bidders who share the same rank till 50% of the rank (with any fraction rounded off to higher integer) determined above, shall qualify to participate in the electronic reverse auction stage. In case 50% of the rank is having less than four (4) Bidders and the rank of the fourth (4<sup>th</sup>) Bidder is shared by more than one Bidder, then all such all such Bidders who share the rank of the fourth Bidder shall qualify to participate in the electronic reverse auction.

3.5.2. The Financial Bids comprising of both Initial Offer and Final Offer submitted by the Bidders shall be scrutinized to ensure conformity with the provisions of Clause 2.5.3 of this RFP. Any Bid not meeting any of the requirements as per Clause 2.5.3 of this RFP may cause the Bid to be considered "Non-responsive", at the sole decision of the BPC. Financial Bid not in conformity with the requirement of SI. No. (c) of Clause 2.5.3 of this RFP shall be rejected.

3.5.3 The Bidders shall quote the single annual Quoted Transmission Charges as specified in the format at Annexure – 21.

### **3.6. STEP V - Bidder Selection**

- 3.6.1. The prevailing lowest Quoted Transmission Charges discovered from Final Offers shall only be displayed during the e-reverse bidding and the Bidder quoting such Final Offer will always remain anonymous during the e-reverse bidding. The Bidder with the prevailing lowest Quoted Transmission Charges discovered from Final Offers at the close of the scheduled or extended period of e-reverse bidding as mentioned in clause 2.5 shall be declared as the Successful Bidder, subject to verification of the original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14. The Letter of Intent shall be issued to such Successful Bidder in two (2) copies.

However, if no bid is received during the e-reverse bidding stage then the Bidder with lowest quoted initial transmission charges ("Initial Offer") during e-bidding stage shall be declared as the Successful Bidder, subject to verification of the original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14. The Letter of Intent shall be issued to such Successful Bidder in two (2) copies.

In case, there is a discrepancy between the online submission and physical documents, the bid would be out rightly rejected and the bidder shall be construed to have engaged in the fraudulent practice as defined in Clause 2.19.3 with consequences as mentioned in Clause 2.19.2. Further, in such a case, the provisions of Clause 2.5.6 (j) shall apply.

- 3.6.2. The Selected Bidder shall unconditionally accept the LoI, and record on one (1) copy of the LoI, "Accepted unconditionally", under the signature of the authorized signatory of the Successful Bidder and return such copy to the BPC within seven (7) days of issue of LoI.
- 3.6.3. If the Successful Bidder, to whom the Letter of Intent has been issued, does not fulfill any of the conditions specified in Clauses 2.15.2, 2.15.3 and Clause 2.15.4, then subject to Clause 2.15.5, the BPC reserves the right to annul the award of the Project and cancel the Letter of Intent. Further, in such a case, the provisions of Clause 2.5.6 (j) shall apply.
- 3.6.4. The BPC, in its own discretion, has the right to reject all Bids if the Quoted Transmission Charges are not aligned to the prevailing prices.

### **3.7. Misrepresentation by the Bidder**

If the Bidder conceals any material information or makes a wrong statement or misrepresents facts or makes a misleading statement in the Technical Bid or Bid, as the case may be, in any manner whatsoever, in order to create circumstances for the acceptance of its Technical Bid/Bid, the BPC reserves the right to reject such Technical Bid/Bid, and/or cancel the Letter of Intent, if issued. Further, in case Letter of Intent is cancelled, consequences as per provisions of the RFP shall follow.

### **3.8. Disposition of Technical Bid**

- 3.8.1. Technical Bid found to be Non-responsive as per Clause 3.2, due to any of the following conditions, shall be liable for rejection.
- Technical Bid that is incomplete.
  - Technical Bid not signed by authorized signatory and / or stamped in the manner indicated in this RFP.

- All pages of the Technical Bid submitted but not initialed by the authorized signatories on behalf of the Bidder.
- Technical Bid not including the covering letter as per Annexure 1.
- Technical Bid contains material inconsistencies in the information and documents submitted by the Bidder, affecting the Qualification Requirements.
- Information not submitted in formats specified in the RFP.
- The Bidder has not submitted a disclosure as per Annexure 13.
- Bidders delaying in submission of additional information or clarifications sought by the BPC.

3.8.2. Technical Bid found to be Non-responsive as per Clause **3.2**, due to any of the following conditions, shall be rejected.

- Technical Bid not received by the scheduled date and time.
- Technical Bid submitted by a Bidding Consortium not including the Consortium Agreement.
- Bidder submitting or participating in more than one response either as a Bidding Company or as a Member of Bidding Consortium.
- More than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent/Affiliate.
- Technical Bid having Conflict of Interest.
- If the Bidder makes any misrepresentation as specified in Clause **3.7**.

3.9. BPC reserves the right to interpret the Bid in accordance with the provisions of this RFP document and make its own judgment regarding the interpretation of the same. In this regard, BPC shall have no liability towards any Bidder and no Bidder shall have any recourse to BPC with respect to the qualification process.

BPC shall evaluate Bid using the process specified in Clause 3.1 to 3.6, at its sole discretion. BPC's decision in this regard shall be final and binding.



## **SECTION - 4**

### **ANNEXURES FOR BID**

## SECTION – 4

### I. Formats for Bid

The following formats are required to be included in the Bidder's Technical and Financial Bid. These formats are designed to demonstrate the Bidder's compliance with the Qualification Requirements set forth in Clause 2.1 of Section – 2.

#### Technical Bid

1. Format for the Covering Letter
2. Format for Letter of Consent from Consortium Members
3. Format for evidence of authorized signatory's authority (Power of Attorney)
4. Format for Power of Attorney from to be provided by each of the other Members of the Consortium in favor of the Lead Member
5. Format for Bidder's composition and ownership structure and Format for Authorization
6. Format for Consortium Agreement
7. Formats for Qualification Requirement
8. Format of Bidders Undertaking and details of Equity Investment
9. Authorization from Parent/Affiliate of Bidding Company/Member of Bidding Consortium whose technical/financial capability has been used by the Bidding Company/Member of Bidding Consortium.
10. Undertaking from the Technically / Financially Evaluated Entity(ies) or from Ultimate Parent Company for equity investment
11. Format of Board Resolutions
12. Format for Illustration of Affiliates
13. Format for Disclosure
14. Format for Bid Bond
- ~~14A. Format for Bid Security Declaration~~
15. Format for Contract Performance Guarantee
16. Checklist for Technical Bid submission requirements
22. Format for Affidavit

In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of LoI.

#### Financial Bid

21. Format for Financial Bid

### II. The following formats are for the information to the Bidders to enable them to submit their Bid.

- 11A. Illustration For Applicable Board Resolution Requirements Under Clause 2.5.2
17. List of Banks
18. GRID Map of the Project
19. Format for clarification/amendments on the RFP/RFP Project Documents
20. Formats for RFP Project Documents

Bidder may use additional sheets to submit the information for its detailed Bid.

**ANNEXURE 1 - COVERING LETTER**

**(The covering letter should be on the Letter Head of the Bidding Company/ Lead Member of the Consortium)**

Date: .....  
 From: .....  
 .....  
 .....  
 Tel. No.: .....  
 Fax No.: .....  
 E-mail address: .....

To,

**Chief Executive Officer,  
 REC Power Development and Consultancy Limited  
 (formerly REC Power Distribution Company Limited)  
 (A wholly owned subsidiary of REC Limited)  
 REC Corporate Head Quarter,  
 D Block, Plot No. I – 4,  
 Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process.**

1. Being duly authorized to present and act on behalf of M/s ..... (insert name of Bidding Company / Bidding Consortium) (hereinafter called the “Bidder”) and having read and examined in detail the Request for Proposal (RFP) document, the undersigned hereby submit our Technical Bid with duly signed formats and Financial Bid (Initial Offer) as stipulated in RFP document for your consideration.
2. It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP document and subsequent clarifications/amendments as per Clause 2.3 and 2.4 of RFP.
3. The information submitted in our Bid is complete, is strictly as per the requirements stipulated in the RFP document and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.
4. We hereby agree and undertake to procure the products associated with the Transmission System as per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. 11/5/2018 - Coord. dated 28.07.2020 for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard.

We hereby also agree and undertake to comply with Department of Expenditure, Ministry of Finance vide Order (Public Procurement No 1) bearing File No. 6/18/2019-PPD dated 23.07.2020, Order (Public Procurement No 2) bearing File No. 6/18/2019-PPD dated 23.07.2020 and Order (Public Procurement No. 3) bearing File No. 6/18/2019-PPD, dated 24.07.2020, as amended from time to time, regarding public procurement from a bidder of a country, which shares land border with India.

5. We hereby agree to comply with Ministry of Power order no. 25-11/6/2018 – PG dated 02.07.2020 as amended from time to time.
6. We are herewith submitting legally binding board resolution for the total equity requirement of the Project.
7. We hereby confirm that in accordance with Clause 2.1.4 of the RFP, we are herewith submitting legally binding undertaking supported by a board resolution from the .....(Insert name of Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be) that all the equity investment obligations of ..... (Insert name of the Bidding Company) shall be deemed to be equity investment obligations of the ..... (Insert name of Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be) and in the event of any default by..... (Insert name of the Bidding Company), the same shall be met by ..... (Insert name of Technically Evaluated Entity and/or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be).

**[Sl. No 7 to be inserted only in case the Bidder is a Bidding Company / Lead Member of a Consortium and has sought qualification on the basis of technical and financial capability of its Affiliate(s) and/or its Parent]**

8. We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfill our obligations with regard to the Project.
9. We hereby confirm that we shall continue to maintain compliance with Qualification Requirements till the execution of the Transmission Service Agreement. Further, in case we emerge as Selected Bidder for the Project, we shall continue to maintain compliance with Qualification Requirements till the COD of the Project.
10. We confirm that we have studied the provisions of relevant Indian laws and regulations required to enable us to build, own, operate and transfer the said Project and to prepare this Bid.
11. We hereby confirm that we shall abide unreservedly with BPC's decision in the qualification process for selection of Qualified Bidder and further warrant that under no circumstances we shall challenge either the BPC's decision or its right to make such decision at any time in the future.
12. We confirm that the Bid shall remain valid for a period of one eighty (180) days from the Bid Deadline.
13. The details of contact person are furnished as under:  
Name: .....

Designation: .....  
 Name of the Company: .....  
 Address of the Bidder: .....  
 Phone Nos.: .....  
 Fax Nos.: .....  
 E-mail address: .....

#### 14. Bid Bond

We have enclosed a Bid Bond of Rupees ..... Crores (Rs. ....) only or US\$ ..... (.....US Dollars), in the form of bank guarantee no.....[Insert number of the Bank Guarantee] dated.....[Insert Date of the Bank Guarantee] as per your proforma (Annexure-14) from.....[Insert name of bank providing Bid Bond] and valid up to .....in terms of Clause 2.11 of the RFP.

#### 15. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by the BPC on any matter regarding or arising out of the RFP shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

#### 16. Familiarity With Relevant Indian Laws & Regulations

We confirm that we have studied the provisions of relevant Indian laws and regulations as required to enable us to submit this Bid and execute the RFP Project Documents (other than TSA), in the event of our selection as the TSP. We further undertake and agree that all such factors as mentioned in Clause 2.5.7 of RFP have been fully examined and considered while submitting the Bid.

It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications from BPC.

The information submitted in our Bid is complete, strictly as per the requirements stipulated in the RFP and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.

We confirm that we have not taken any deviation so as to be deemed non-responsive with respect to the provisions stipulated at Clause 2.5.1, of this RFP.

Thanking you,

Yours sincerely,

.....  
**(Name and Signature of the authorized signatory in whose name Power of Attorney/ Board Resolution as per Clause 2.5.2 is issued)**

Name: .....  
 Designation: .....  
 Address: .....

Date: .....

Place: .....

**Company Rubber Stamp**

**ANNEXURE 2 - LETTER OF CONSENT FROM CONSORTIUM MEMBERS****(On the letter head of each Member of the Consortium including Lead Member)**

Date: .....  
 From: .....  
 .....  
 .....  
 Tel. No.: .....  
 Fax No.: .....  
 E-mail address: .....

To,

**Chief Executive Officer,  
 REC Power Development and Consultancy Limited  
 (formerly REC Power Distribution Company Limited)  
 (A wholly owned subsidiary of REC Limited)  
 REC Corporate Head Quarter,  
 D Block, Plot No. I – 4,  
 Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process.**

We, the undersigned Member of ..... (Insert name of the Bidding Consortium) have read, examined and understood the RFP document for the short-listing of Bidders as prospective TSP to establish Inter-State Transmission System for “**Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C**” through tariff based competitive bidding process. We hereby confirm our concurrence with the Bid including in particular the Consortium Agreement submitted by ..... (Insert name of the Lead Member) in response to the RFP document.

We hereby confirm our commitment to participate in the said Bidding Consortium and invest ..... % of the total equity requirement for the Project as per the terms of the Consortium Agreement dated ..... and board resolution for such investment commitment is enclosed herewith.

We hereby confirm that in accordance with Clause 2.1.4 of the RFP, we are enclosing legally binding undertaking supported by a board resolution from the ..... (Insert name of Technically Evaluated Entity and / or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be) that all the equity investment obligations of ..... (Insert name of the Member) shall be deemed to be equity investment obligations of the ..... (Insert name of Technically Evaluated Entity and / or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be) and in the event of any default by ..... (Insert name of the Member), the same shall be met by ..... (Insert name of Technically Evaluated Entity and / or Financially Evaluated Entity or its Ultimate Parent Company, as the case may be). [Insert if applicable]

**[To be inserted by the Lead Member only]** We are also enclosing legally binding board resolution for the total equity requirement of the Project in case of any breach of any of the equity investment commitment by any of the Consortium Members, in line with the provisions of the Consortium Agreement dated ..... [Bidder to insert date of Consortium Agreement].

The details of contact person are furnished as under:

Name: .....  
 Designation: .....  
 Name of the Company: .....  
 Address: .....  
 Phone Nos.: .....  
 Fax Nos.: .....  
 E-mail address: .....

Dated the ..... day of ..... of 20...

Thanking you,

Yours faithfully,

.....  
**(Signature)**

**Name:** .....  
**Designation:** .....

(Signature, Name, Designation of Authorized Signatory of Consortium Member and Company's Seal)



### ANNEXURE 3 - FORMAT FOR EVIDENCE OF AUTHORIZED SIGNATORY'S AUTHORITY (POWER OF ATTORNEY)

#### POWER OF ATTORNEY

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting bids are required to follow the applicable law in their country)**

Know all men by these presents, We .....(name and address of the registered office of the Bidder) do hereby constitute, appoint and authorize Mr./Ms.....(name and residential address) who is presently employed with us and holding the position of ..... as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for “**Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C**” through tariff based competitive bidding process in the country of India, including signing and submission of all documents related to the Bid, including, undertakings, letters, certificates, acceptances, clarifications, guarantees, etc., making representations to the BPC, and providing information / responses to the BPC, representing us in all matters before the BPC, and generally dealing with the BPC in all matters in connection with our Bid for the said Project till the completion of the bidding process in accordance with the RFP and signing of the Share Purchase Agreement by all the parties thereto.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

**For ..... [Insert name of the Bidder on whose behalf PoA is executed]**

.....  
**(Signature)**

Name: .....  
Designation: .....

**Accepted**

.....  
**(Signature of the Attorney)**

Name: .....  
Designation: .....  
Address: .....

.....  
**(Name, Designation and Address of the Attorney)**

Specimen signatures of attorney attested by the Executant

.....  
**(Signature of the Executant)**

.....  
**(Signature of Notary Public)**

Place: .....

Date: .....

**Notes:**

- 1) To be executed by Bidding Company or the Lead Member, in the case of a Bidding Consortium, as the case maybe.
- 2) The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by the executant(s) in this regard.
- 3) Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the Person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).
- 4) In case of foreign Bidders, refer to clause 2.5.6 (p)

**ANNEXURE 4 - FORMAT FOR POWER OF ATTORNEY TO BE PROVIDED BY  
EACH OF THE OTHER MEMBERS OF THE CONSORTIUM IN FAVOUR  
OF THE LEAD MEMBER**

**POWER OF ATTORNEY**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting bids are required to follow the applicable law in their country)**

**KNOW ALL MEN BY THESE PRESENTS THAT** M/s....., having its registered office at ....., .....,and M/s ..... having its registered office at ..... , (Insert names and registered offices of all Members of the Consortium), the Members of Consortium, have formed a Bidding Consortium named ..... (insert name of the Consortium) (hereinafter called the **“Consortium”**) vide Consortium Agreement dated..... and having agreed to appoint M/s..... as the Lead Member of the said Consortium do hereby constitute, nominate and appoint M/s.....a company incorporated under the laws of .....and having its Registered / Head Office at .....as our duly constituted lawful Attorney (hereinafter called as **“Lead Member”**) which is one of the Members of the Consortium, to act as the Lead Member and our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of Consortium's Bid for the Project, including signing and submission of the Bid and all documents related to the Bid, including, undertakings, letters, certificates, acceptances, clarifications, guarantees, etc, making representations to the BPC, and providing information / responses to the BPC, representing us and the Consortium in all matters before the BPC, and generally dealing with the BPC in all matters in connection with our Bid for the said Project, till completion of the bidding process in accordance with the RFP and signing of the Share Purchase Agreement by all the parties thereto.

It is expressly understood that in the event of the Consortium being selected as Successful Bidder, this Power of Attorney shall remain valid, binding and irrevocable until the Bidding Consortium achieves execution of all RFP Project Documents.

We, as the Member of the Consortium, agree and undertake to ratify and confirm all whatsoever the said Attorney/Lead Member has done on behalf of the Consortium Members pursuant to this Power of Attorney and the same shall bind us and deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

**IN WITNESS WHEREOF** M/s ....., as the Member of the Consortium have executed these presents on this..... day of .....

For and on behalf of  
Consortium Member

.....  
**(Signature of the Authorized Signatory)**

Name: .....  
 Designation: .....  
 Place: .....  
 Date: .....

Name: .....  
 Designation: .....  
 Place: .....  
 Date: .....

### Accepted

Specimen signatures of attorney attested

.....  
 (Signature)

.....

.....

(Signature of Notary Public)

.....

(Name, Designation and Address  
 of the Attorney)

Place: .....

Date: .....

### Notes:

1. The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal of the executant affixed in accordance with the applicable procedure. Further, the person whose signatures are to be provided on the power of attorney shall be duly authorized by the executant(s) in this regard.
2. Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the Person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).
3. In case of foreign Bidders, refer to clause 2.5.6 (p)

## ANNEXURE 5 - FORMAT FOR BIDDER'S COMPOSITION AND OWNERSHIP STRUCTURE

### 1. Corporate Details:

Please provide the following information for the Bidder. If the Bidder is a Consortium, please provide this information for each Member including the Lead Member:

#### a. Company's Name, Address, and Nationality:

Name: .....

Address: .....  
 .....  
 .....

Website Address: .....

Country of Origin: .....

#### b. Year Organized: .....

#### c. Company's Business Activities: ..... .....

#### d. Status as a Bidder:

- i. Bidding Company
- ii. Lead Member of the Bidding Consortium
- iii. Member of the Bidding Consortium

**Note: tick the applicable serial number**

#### e. Company's Local Address in India (if applicable):

.....  
 .....  
 .....

#### f. Name of the Authorized Signatory: .....

#### g. Telephone Number: .....

#### h. Email Address: .....

#### i. Telefax Number: .....

#### j. Please provide the following documents:

- i. Copy of the Memorandum and Articles of Association and certificate of incorporation or other equivalent organizational document (as applicable), including their amendments, certified by the Company Secretary as

**Attachment 1** for Bidding Company / each Member of Bidding Consortium including Lead Member.

- ii. Authority letter (as per format for authorization given below) in favour of BPC from the Bidder/every Member of the Consortium authorizing BPC to seek reference from their respective bankers & others as **Attachment 2** as per Clause 2.1.6 of the RFP.

**2. Details of Ownership Structure:**

Equity holding of Bidding Company/ each Member of Bidding Consortium including Lead Member owning 10% or more of total paid up equity.

Name of the Bidding Company / Consortium Member: .....

Status of equity holding as on .....

Name of the Equity Holder	Type and No. of Shares owned	Extent of Voting Control (%)
1. ....		
2. ....		
3. ....		
4. ....		
5. ....		
6. ....		
7. ....		
8. ....		
....		

**Notes:**

1. The above table is to be filled in separately for each Consortium Member.
2. Status of equity holding should be provided not earlier than thirty (30) days prior to Bid Deadline.

**For and on behalf of Bidding Company / Lead Member of the Bidding Consortium**

M/s.....

.....

**(Signature of authorized representative)**

Name: .....

Designation: .....

.....

**(Stamp)**

Date: .....

Place: .....

**FORMAT FOR AUTHORISATION**

**(In case of Bidding Consortium, to be given separately by each Member)**  
**(On Non – judicial stamp paper duly attested by notary public. Foreign companies submitting bids are required to follow the applicable law in their country)**

The undersigned hereby authorize(s) and request(s) all our Bankers, including its subsidiaries and branches, any person, firm, corporation or authority to furnish pertinent information deemed necessary and requested by REC Power Development and Consultancy Limited to verify our Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission system for “**Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C**” through tariff based competitive bidding process or regarding our project development experience, financial standing and general reputation.

**For and on behalf of M/s..... (Insert Name of Bidding Company or Member of the Consortium)**

.....  
**(Signature)**

Name of Authorized Signatory: .....

**(Signature and Name of the authorized signatory of the Company)**

Place: .....

Date: .....

.....  
**(Company rubber stamp/seal)**

.....  
**(Signature of Notary Public)**

Place: .....

Date: .....

**ANNEXURE 6 - FORMAT FOR CONSORTIUM AGREEMENT**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting bids are required to follow the applicable law in their country)**

**THIS CONSORTIUM AGREEMENT** executed on this..... day of .....Two thousand.....between M/s....., a company incorporated under the laws of ..... and having its Registered Office at ..... (hereinafter called the "Party 1", which expression shall include its successors, executors and permitted assigns) and M/s.....a Company incorporated under the laws of ..... and having its Registered Office at ..... (hereinafter called the "Party n", which expression shall include its successors, executors and permitted assigns) and for the purpose of submitting the Bid, acquisition of {name of the SPV} (in case of award) and entering into other Agreement(s) as specified in the RFP (hereinafter referred to as "Agreements") as may be entered into with the Nodal Agency.

**WHEREAS**, the BPC had invited Bid in response to RFP issued to ..... (insert the name of purchaser of RFP) for selection of the bidder as the Transmission Service Provider to establish Inter-State Transmission System for **"Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C"** **AND WHEREAS**, Clause 2.2.4 of the RFP document stipulates that the Bidders qualifying on the strength of a Bidding Consortium will have to submit a legally enforceable Consortium Agreement in a format specified in the RFP document wherein the Consortium Members have to commit equity of a specific percentage in the Project.

**AND WHEREAS**, Clause 2.2.4 of the RFP document also stipulates that the Bidding Consortium shall provide along with the Bid, a Consortium Agreement as per prescribed format whereby the Consortium Members undertake to be liable for raising the required funds for its respective equity investment commitment as specified in Consortium Agreement.

**NOW THEREFORE, THIS INDENTURE WITNESSTH AS UNDER:**

In consideration of the above premises and agreement all the parties in this Consortium do hereby mutually agree as follows:

1. In consideration of the selection of the Consortium as the selected bidder by the BPC, we the Members of the Consortium and parties to the Consortium Agreement do hereby unequivocally agree that M/s..... (Insert name of the Lead Member), shall act as the Lead Member as defined in the RFP for self and agent for and on behalf of ....., ....., ..... (the names of all the other Members of the Consortium to be filled in here).
2. The Lead Member is hereby authorized by the Members of Consortium and parties to the Consortium Agreement to bind the Consortium and receive instructions for and on behalf of the Members.
3. Notwithstanding anything contrary contained in this Consortium Agreement, the Lead Member shall always be liable for the equity investment obligations of all the Consortium



Members, i.e., for both its own equity contribution as well as the equity contribution of other Members.

4. The Lead Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the Consortium in discharging all their respective equity obligations. Each Consortium Member further undertakes to be individually liable for the performance of its part of the obligations without in any way limiting the scope of collective liability envisaged in this agreement.
5. Subject to the terms of this agreement, the share of each Member of the Consortium in the “issued equity share capital of the project company” shall be in the following proportion: (if applicable)

Name	Percentage of equity holding in the Project
Party 1	.....
.....	.....
Party n	.....
<b>Total</b>	<b>100%</b>

[**Note:** The percentage equity holding for any Consortium Member in the Project cannot be zero in the above table]

6. The Lead Member shall inter alia undertake full responsibility for liaising with lenders and mobilizing debt resources for the Project and achieving financial closure.
7. In case of any breach of any of the equity investment commitment by any of the Consortium Members, the Lead Member shall be liable for the consequences thereof.
8. Except as specified in the Agreement, it is agreed that sharing of responsibilities as aforesaid and equity investment obligations thereto shall not in any way be a limitation of responsibility of the Lead Member under these presents.
9. It is further specifically agreed that the financial liability for equity contribution of Lead Member shall, not be limited in any way so as to restrict or limit its liabilities. The Lead Member shall be liable irrespective of their scope of work or financial commitments.
10. It is expressly understood and agreed between the Members that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as **Appendix-I**, forming integral part of this Agreement. It is further agreed by the Members that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities and liabilities of the Members, with regards to all matters relating to the Project.
11. It is clearly agreed that the Lead Member shall ensure performance under the Agreements and if one or more Consortium Members fail to perform its /their respective obligations under the Agreement(s), the same shall be deemed to be a default by all the Consortium Members.

12. This Consortium Agreement shall be construed and interpreted in accordance with the Laws of India and courts at **Delhi** alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
13. It is hereby agreed that, the Lead Member shall furnish the bid bond, as stipulated in the RFP, on behalf of the Consortium Members.
14. It is hereby agreed that in case of selection of Bidding Consortium as the selected bidder, the parties to this Consortium Agreement do hereby agree that they shall furnish the contract performance guarantee on behalf of the TSP in favor of the Nodal Agency, as stipulated in the RFP and Transmission Service Agreement.
15. It is further expressly agreed that the Consortium Agreement shall be irrevocable and shall form an integral part of the RFP Project Document and shall remain valid till the execution of the Share Purchase Agreement, unless expressly agreed to the contrary by the Nodal Agency. Over the term of the Transmission Service Agreement, Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations as amended from time to time shall apply on the Consortium Members.
16. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Consortium Members respectively from time to time in response to the RFP and for the purposes of the Project.
17. It is hereby expressly agreed between the parties to this Consortium Agreement that neither party shall assign or delegate its rights, duties or obligations under this Agreement except with the prior written consent of the Nodal Agency.

**THIS CONSORTIUM AGREEMENT:**

- a. has been duly executed and delivered on behalf of each party hereto and constitutes the legal, valid, binding and enforceable obligation of each such party,
- b. sets forth the entire understanding of the parties hereto with respect to the subject matter hereof;
- c. may not be amended or modified except in writing signed by each of the parties and with prior written consent of the Nodal Agency.

**IN WITNESS WHEREOF**, the parties to the Consortium Agreement have, through their authorized representatives, executed these present on the Day, Month and Year first mentioned above.

For and on behalf of Consortium Member 1 (Party 1)  
M/s.....

.....  
(Signature of authorized signatory)

Name: .....  
 Designation: .....  
 Place: .....  
 Date: .....

For and on behalf of Consortium Member n (Party n)  
 M/s.....

.....  
**(Signature of authorized signatory)**

Name: .....  
 Designation: .....  
 Place: .....  
 Date: .....

**Attested:**

.....  
**(Signature)**  
**(Notary Public)**

Place: .....  
 Date: .....

Note: In case of foreign Bidders, refer to clause 2.5.6 (p)

**Appendix 1 to the Consortium Agreement:**

<b>Name of the Consortium Member</b>	<b>Responsibilities under the Consortium Agreement</b>
M/s ..... (Party 1)	
M/s .....	
M/s ..... (Party n)	

**ANNEXURE 7 A - FORMAT FOR QUALIFICATION REQUIREMENT****A. NET WORTH**

To,  
**Chief Executive Officer,**  
**REC Power Development and Consultancy Limited**  
**(formerly REC Power Distribution Company Limited)**  
**(A wholly owned subsidiary of REC Limited)**  
**REC Corporate Head Quarter,**  
**D Block, Plot No. I – 4,**  
**Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bid for selection of Bidder as Transmission Service Provider to establish Inter-State Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

**1. [Note: Applicable in case of Bidding Company]**

We certify that the Financially Evaluated Entity(ies) had a Networth of Rs. .... Crore or equivalent USD\* computed as per instructions in this RFP based on unconsolidated audited annual accounts (refer Note-2 below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the Networth of any of the last three (3) financial years is not negative.

<b>Name of Financially Evaluated Entity(ies)</b>	<b>Relationship with Bidding Company**</b>	<b>Financial Year</b>	<b>Networth (Rs. Crore)</b>
<b>1. ....</b>			
<b>2. ....</b>			
<b>3. ....</b>			
<b>....</b>			
<b>Total Network</b>			

\*Equivalent USD shall be calculated as per provisions of Clause 3.4.1.

\*\* The column for “Relationship with Bidding Company” is to be filled in only in case financial capability of Parent/Affiliate has been used for meeting Qualification Requirements.

**2. [Note: Applicable in case of Bidding Consortium]**

We certify that the Financially Evaluated Entity(ies) had a minimum Networth of Rs. .... Crore or equivalent USD\* computed as per instructions in the RFP and based on unconsolidated audited annual accounts (refer Note-2 below) of any of the last three (3) financial years as provided in Clause 2.2.3, immediately preceding the Bid Deadline. Also, the Networth of any of the last three (3) financial years is not negative.

Name of Consortium Member	Equity Commitment in the Project (%)	Networth of Member (Rs. Crore)	Networth Requirement to be met by Member in proportion to the Equity Commitment (Rs. Crore)	Whether the Member meets the Networth Requirement
(1)	(2)	(3) (As per table below)	(4) = (2 x Total Networth requirement for the Project)	(5)
1. ....				Yes / No
2. ....				Yes / No
..				Yes / No
<b>Total Networth for financial requirement</b>				

### Member – I (Lead Member)

[Note: Similar particulars for each Member of the Consortium is to be furnished, duly certified by the Member's Statutory Auditors]

- i. Name of Member: .....
- ii. Total Networth requirement: Rs ..... Crore
- iii. Percentage of equity commitment for the Project by the Member: .....%
- iv. Networth requirement for the Member\*\*\*: Rs ..... Crore
- v. Financial year considered for the Member: .....

Name of Financially Evaluated Entity(ies)	Relationship** with Member of Consortium	Financial Year	Networth (Rs. Crore)
1. ....			
2. ....			
3. ....			
<b>Total Networth</b>			

\* Equivalent USD shall be calculated as per provisions of Clause 3.4.1;

\*\* The column for "Relationship with Member of Consortium" is to be filled in only in case the financial capability of Parent / Affiliate has been used for meeting Qualification Requirements;

\*\*\* Networth requirement to be met by Member should be in proportion to the equity commitment of the Member for the Project.

**Yours faithfully**

.....  
**(Signature and name of the authorized signatory of the Company and Stamp)**

Name: .....  
 Date: .....  
 Place: .....

.....  
**(Signature and Stamp of statutory Auditors of Bidding Company / each Member of Consortium)**

Name: .....  
 Date: .....  
 Place: .....

Date: .....

**Notes:**

1. Along with the above format, in a separate sheet, please provide details of computation of Networth of last three (3) financial years duly certified by Statutory Auditor.
2. Audited consolidated annual accounts of the Bidder may be used for the purpose of financial criteria provided the Bidder has at least 26% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.
3. In case Bidder or a Member of Consortium takes recourse to its Parent/Affiliate for meeting technical / financial requirements, then the financial years considered for such purpose should be same for the Bidder / Member of Consortium and their respective Parent / Affiliate.

**ANNEXURE 7B - FORMAT FOR TECHNICAL REQUIREMENT**

To,

**Chief Executive Officer,  
REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
REC Corporate Head Quarter,  
D Block, Plot No. I – 4,  
Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bid for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

**1. To be used by Bidder using the development experience in infrastructure sector**

We certify that M/s. .... (Insert name of Technically Evaluated Entity(ies)) have experience of development of projects in the Infrastructure sector in the last five (5) years whose aggregate capital expenditure is Rs. .... Crore or equivalent USD\*. We further certify that the capital expenditure of any single project considered for meeting the technical Qualification Requirement is not less than Rs. .... Crore or equivalent USD\*. For this purpose, capital expenditure incurred on projects which have been either wholly completed / commissioned or partly completed projects put under commercial operation and for which operation has commenced till at least seven (7) days prior to the Bid Deadline has been considered.

The project(s) considered for the purpose of technical experience (as per table given below) have been executed and owned to the extent as indicated in the table below (to be atleast twenty – six percent (26%)) by the Bidding Company / Lead Member of the Consortium / our Parent / our Affiliate(s) [strike off whichever is not applicable] on operation of the projects.

This technical requirement has been calculated as per the instructions provided in the RFP on the basis of following projects:

Name of Company (which has executed the project at (3)) whose technical capability has been used for Qualification Requirement	Relationship** with Bidding Company / Lead Member	Project name	Nature of Project (BOOT, BOT, BOOM, DBFOT etc.)	Relevant Infrastructure sector	Date of Financial Closure of the Project (in DD / MM / YYYY)	Date of Completion / Commissioning / Commercial Operation of partly completed projects	Project cost (Rs. Crore)	Percentage Equity Holding of Company at (1) in Completed project(s)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
.....		..... (Project 1)						
.....		.....						
<b>Total (Rs. Crore)</b>								



- \* Equivalent USD shall be calculated as per provisions of Clause \_\_\_\_
- \*\* The column for “Relationship with Bidding Company / Lead Member” is to be filled in only in case technical capability of Parent/Affiliate has been used for meeting Qualification Requirements.

We further certify that the Company(ies) as indicated in column (1) of the above table, whose technical capability has / have been used for meeting the qualification requirement, has / have held shareholding respectively of atleast twenty – six percent (26%) from the date of financial closure till the date of commissioning / completion of the above project(s).

## 2. To be used by Bidder using construction experience in infrastructure sector.

We certify that M/s. .... (Insert name of Technically Evaluated Entity(ies)) have received aggregate payments not less than Rs. .... Crore or equivalent USD (calculated as per provisions in Clause 3.4.1) from its client(s) for construction works fully completed during the last 5(five) financial years. We further certify that the payment received from each project shall not be less than Rs. .... Crore or equivalent USD (calculated as per provisions in Clause 3.4.1). For this purpose, payments received on projects that have been commissioned/completed at least seven (7) days prior to the Bid Deadline shall be considered. Further only the payments (gross) actually received, during such 5 (five) financial years shall qualify for purposes of computing the technical capacity.

We also confirm that construction works does not include cost of land supply of goods or equipment except when such goods or equipment form part of a turn-key construction contract/ EPC contract for the project.

This technical requirement has been calculated as per the instructions provided in the RFP on the basis of following projects:

Name of Company (which has executed the project at (3)) whose technical capability has been used for Qualification Requirement	Relationship** with Bidding Company / Lead Member	Project name	Nature of Project (EPC, Turnkey etc)	Relevant Infrastructure sector	Date of award of contract (in dd/mm/yy)	Date of Completion / Commissioning	Payment received (Rs. Crore)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
.....		..... Project 1					
.....		.....					
.....		.....					
Total (Rs. Crore)							

Yours faithfully

.....  
(Signature and name of the authorized signatory of the Company and stamp)

Name: .....  
Date: .....  
Place: .....

.....

**(Signature and Stamp of statutory Auditors of Bidding Company/ Lead Member of Consortium)**

Name: .....

Date: .....

Place: .....

Date: .....

**Notes:**

1. Along with the above format, in a separate sheet, please provide details of computation of capital expenditure of projects duly certified by Statutory Auditor of the project company. In addition, the Statutory Auditor of the project company should also certify that the capital expenditure of projects commissioned or completed 7 days prior to Bid Deadline has been capitalized in the books of accounts.

Additionally, in case construction experience is used, a certificate(s) from the statutory auditors stating the payments received and the concerned client(s) stating the works commissioned during the past 5 years in respect of the projects specified above. In case a particular job/ contract has been jointly executed by the Bidder (as part of a consortium), it should further support its claim for the share in work done for that particular job/ contract by producing a certificate from its statutory auditor or the client.

2. In case the accounts for the financial year in which the project claimed for meeting qualification requirement has been commissioned are not audited, the Bidder shall give declaration in this regard duly certified by its statutory auditor. In such a case, Bidder shall provide details of computation of capital expenditure of such project(s) duly certified by Statutory Auditor of the project company and the Statutory Auditor of the project company should also certify that the capital expenditure of projects commissioned or completed shall be capitalized in the books of accounts upon finalization.
3. The unconsolidated audited annual accounts of both the TEE and the Bidding Company / Lead Member for the respective financial years (financial years in which financial closure was achieved to the financial year in which the said project was completed / commissioned) should be submitted.

## ANNEXURE 7C - FORMAT FOR TECHNICAL & FINANCIAL REQUIREMENT – RELATIONSHIP & DETAILS OF EQUITY SHAREHOLDING

[To be filled by Bidding Company / each Member of the Bidding Consortium including Lead Member if credentials of Parent and / or Affiliates have been used by them]

To,

**Chief Executive Officer,  
REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
REC Corporate Head Quarter,  
D Block, Plot No. I – 4,  
Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bid for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

We certify that M/s. .... (insert name of the **Bidding Company / Consortium Members**) have considered the technical and financial capability of its Parent and / or Affiliates, for the purpose of meeting Qualification Requirements as per the instructions provided in the RFP. The name of Parent and / or Affiliate, nature of relationship(s) with such Parent and / or Affiliate and details of equity holding are as follows:

<b>Name of Company whose credentials considered</b>	<b>Type of credentials considered (technical and / or financial)</b>	<b>Relationship with Bidding Company / Consortium Member (Parent / Affiliate)</b>	<b>Details of equity shareholding (refer notes below)</b>
Company 1			
.....			
.....			
.....			
.....			

### NOTES:

- i. In case of Parent, the equity holding of the Parent in the Bidding Company / Member of the Bidding Consortium, including the Lead Member of the Consortium, need to be specified.
- ii. In case of Affiliate under direct control of Bidder, the equity holding of the Bidding Company / Member of the Bidding Consortium, including the Lead Member of the Consortium in the Affiliate, needs to be specified.
- iii. In case of Affiliate under common control of Parent, the equity holding of the Parent in the Affiliate of the Bidding Company / Member of the Bidding Consortium, including the Lead Member of the Consortium, needs to be specified.

- iv. Relationship of Parent / Affiliate with Bidding Company / Member of Consortium to be at the most seven (7) days prior to the Bid Deadline (as per Clause 2.1.4 of RFP)

Yours faithfully

.....

**(Signature and name of the authorized signatory of the Company and stamp)**

Name: .....

Date: .....

Place: .....

.....

**(Signature and Stamp of statutory Auditors of Bidding Company / each Member of Bidding Consortium)**

Name: .....

Date: .....

Place: .....

Date: .....

## ANNEXURE 7D - ADDITIONAL INFORMATION FOR VERIFICATION OF FINANCIAL AND TECHNICAL CAPABILITIES OF BIDDERS.

.....  
(Name of Bidder (Bidding Company/ Bidding Consortium or Technically/Financially Evaluated Entity(ies))

(Note: In case of Consortium, details to be filled in by Lead Member for each Member of the Consortium including the Lead Member and in case of the qualification requirements of Technically / Financially Evaluated Entity(ies) being used, to be filled by each of such entity(ies)

### i. Financial capability (Attachment 1):

1. Bidders shall attach unconsolidated / consolidated audited annual accounts, statements, as the case may be, (refer Clause 2.1.3) for the last three (3) financial years as Attachment 1. Such unconsolidated audited annual accounts shall include a Balance Sheet, Profit and Loss Account, Auditors Report and profit appropriation account.

### ii. Technical capability (Attachment 2):

- a. This attachment shall include details of projects completed/commissioned or partly completed projects for which commercial operation has commenced to be considered for the purpose of meeting Qualification Requirements.

1. To be used by Bidder using development experience in infrastructure sector

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
Name(s) of project(s) from Infrastructure sectors					
Location(s) including country(s) where project was set up					
Nature of Project					
Voltage level (if any)					
Capital cost of project(s) Rs. in Crore					
*Status of the project					
% of equity owned in the project(s)					

**\*Note 1:** Date of completion/commissioning/commercial operation to be mentioned

**Note 2:** For each project listed in the table, the Bidder shall furnish an executive summary including the following information:

- Project model, i.e., BOO, BOOT, BOOM;

- Debt financing and equity raised and provided by Bidder/Bidder's Parent/Bidder's Affiliate for the project, including names of lenders and investors;
- Size and type of installation;
- Technical data/information on major equipment installed
- Description of role performed by the Bidder/Bidder's Parent/Bidder's Affiliate on the project
- Clearances taken by the Bidder/Bidder's Parent/Bidder's Affiliate including but limited to right-of-way (RoW), forest clearance and other statutory / Govt. clearances.
- Cost data (breakdown of major components)
- Name of EPC and/or other major contractor
- Construction time for the project
- Names, addresses and contact numbers of owners of the projects
- Operating reliability over the past five (5) years or since date of commercial operation
- Operating environmental compliance history
- Names of supervisory entities or consultant, if any
- Date of commercial operation
- Total duration of operation

2. To be used by Bidder using construction experience in infrastructure sector

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
Name(s) of project(s) from Infrastructure sectors					
Location(s) including country(s) where project was set up					
Nature of Project					
Voltage level (if any)					
Revenue received Rs. in Crore					
*Status of the project					
% of equity owned in the project(s)					

**\*Note 1:** Date of completion/commissioning/commercial operation to be mentioned

**Note 2:** For each project listed in the table, the Bidder shall furnish an executive summary including the following information:

- Project model, i.e., EPC, Turnkey;
- Size and type of installation;
- Technical data/information on major equipment installed
- Description of role performed by the Bidder/Bidder's Parent/Bidder's Affiliate on the project
- Cost data (breakdown of major components)
- Name of sub-contractor
- Construction time for the project
- Names, addresses and contact numbers of owners of the projects
- Operating reliability over the past five (5) years or since date of commercial operation
- Operating environmental compliance history

- Names of supervisory entities or consultant, if any
- Date of commercial operation
- Total duration of operation

**iii. Attachment-3:**

- a. For each project listed in Attachment 2 above, certificates of final acceptance and/or certificates of good operating performance duly issued by owners for the project and the same shall be certified as true by authorized signatory of the Bidding Company or the Lead Member of Consortium). In case the project listed in Attachment 2 is under BOOT / DBFOT mechanism, the certificates of final acceptance and/or certificates of good operating performance must be issued by the authority / independent engineer of the project as defined in the respective project agreement.

For and on behalf of Bidding Company/Consortium

M/s.....

.....

**(Signature of authorized signatory)**

Name: .....

Designation: .....

Date: .....

Place: .....

**ANNEXURE 8 -UNDERTAKING AND DETAILS OF EQUITY INVESTMENT****Format 1: Bidders' Undertakings****[On the Letter Head of the Bidding Company/Lead Member of Bidding Consortium]****Date: .....**

**To,  
 Chief Executive Officer,  
 REC Power Development and Consultancy Limited  
 (formerly REC Power Distribution Company Limited)  
 (A wholly owned subsidiary of REC Limited)  
 REC Corporate Head Quarter,  
 D Block, Plot No. I – 4,  
 Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bidders' Undertakings in respect of Bid for selection of Bidder as TSP to establish Inter-State transmission system for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”**

We hereby undertake on our own behalf and on behalf of the TSP, that if selected as the Successful Bidder for the Project:

1. The Project shall comply with all the relevant electricity laws, codes, regulations, standards and Prudent Utility Practices, environment laws and relevant technical, operational and safety standards, and we shall execute any agreements that may be required to be executed as per law in this regard.
2. We confirm that the Project shall also comply with the standards and codes as per Clause 1.6.1.2 of the RFP and the TSP shall comply with the provisions contained in the Central Electricity Regulatory Commission Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-state Transmission and related matters Open Access Regulations, 2009.
3. We give our unconditional acceptance to the RFP dated 22.05.2023 issued by the BPC and the RFP Project Documents, as amended, and undertake to ensure that the TSP shall execute all the RFP Project Documents, as per the provisions of this RFP.
4. We have submitted the Bid on the terms and conditions contained in the RFP and the RFP Project Documents. Further, the Financial Bid submitted by us is strictly as per the format provided in Annexure 21 of the RFP, without mentioning any deviations, conditions, assumptions or notes in the said Annexure.
5. Our Bid is valid up to the period required under Clause 2.8 of the RFP.
6. Our Bid has been duly signed by authorized signatory and stamped in the manner and to the extent indicated in this RFP and the power of attorney / Board resolution in requisite format as per RFP has been enclosed with this undertaking.



7. We have assumed that if we are selected as the Successful Bidder, the provisions of the Consortium Agreement, to the extent and only in relation to equity lock in and our liability thereof shall get modified to give effect to the provisions of Clause 2.5.8 of this RFP and Article 18.1 of the Transmission Service Agreement. *(Note: This is applicable only in case of a Bidding Consortium)*
8. We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below:

Sl. No.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1.	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV & 1x125 MVA, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2.	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

We agree that the payment of Transmission Charges for any Element irrespective of its successful commissioning on or before its Scheduled COD shall only be considered after the successful commissioning of Element(s) which are pre - required for declaring the commercial operation of such Element as mentioned in the above table.

**Scheduled COD for the Project:** 24 months from the date of SPV transfer.

9. We confirm that our Financial Bid conforms to all the conditions mentioned in this RFP, and in particular, we confirm that:
- Financial Bid in the prescribed format of Annexure 21 has been submitted duly signed by the authorized signatory.
  - Financial Bid is unconditional.
  - Only one Financial Bid has been submitted.

10. We have neither made any statement nor provided any information in this Bid, which to the best of our knowledge is materially inaccurate or misleading. Further, all the confirmations, declarations and representations made in our Bid are true and accurate. In case this is found to be incorrect after our acquisition of { name of the SPV}, pursuant to our selection as Selected Bidder, we agree that the same would be treated as a TSP's Event of Default under Transmission Service Agreement, and relevant provisions of Transmission Service Agreement shall apply.
11. We confirm that there are no litigations or other disputes against us which materially affect our ability to fulfill our obligations with regard to the Project as per the terms of RFP Project Documents.
12. Power of attorney/ Board resolution as per Clause 2.5.2 is enclosed.

**Signature and name of the authorized signatory of the Company and stamp of Bidding Company or Lead member of Consortium**

**Note:**

1. In case of foreign Bidders, refer to clause 2.5.6 (p)

**Format 2: Details of equity investment in Project**

1.1.a Name of the Bidding Company/ Bidding Consortium:

1.1.b Name of the Lead Member in the case of a Bidding Consortium:

1.2 Investment details of the Bidding Company/Member of the Bidding Consortium investing in { name of the SPV } as per Clause 2.5.8.2.

S. No.	Name of the Bidding Company/ Member in case of a Bidding Consortium	Name of the Company investing in the equity of the .....[Insert the name of the SPV]	Relationship with Bidding Company /Member of the Bidding Consortium	% of equity participation in the .....[Insert the name of the SPV]
(1)	(2)	(3)	(4)	(5)
TOTAL				100%

\* In case the Bidder proposes to invest through its Affiliate(s) / Parent Company / Ultimate Parent Company, the Bidder shall declare shareholding pattern of such Affiliate(s) / Parent Company / Ultimate Parent Company and provide documentary evidence to demonstrate relationship between the Bidder and the Affiliate(s) / Parent Company / Ultimate Parent Company. These documentary evidences could be, but not limited to, demat account statement(s) / Registrar of Companies' (ROC) certification / share registry book, etc duly certified by Company Secretary.

Members of the Consortium or the Bidding Company making investment in the equity of the { name of the SPV } themselves to fill in their own names in the column (3)

**Signature and Name of authorized signatory in whose name power of attorney has been issued**

Signature of authorized signatory

Name: .....

Designation: .....

Date.....

Company rubber stamp

**ANNEXURE 9 -AUTHORISATION FROM PARENT / AFFILIATE OF BIDDING COMPANY / MEMBER OF BIDDING CONSORTIUM WHOSE TECHNICAL / FINANCIAL CAPABILITY HAS BEEN USED BY THE BIDDING COMPANY / MEMBER OF BIDDING CONSORTIUM.**

**[On the Letter Head of the Parent /Affiliate]**

Name: .....  
 Full Address: .....  
 Telephone No.: .....  
 E-mail address: .....  
 Fax / No.: .....

**To**

**Chief Executive Officer,  
 REC Power Development and Consultancy Limited  
 (formerly REC Power Distribution Company Limited)  
 (A wholly owned subsidiary of REC Limited)  
 REC Corporate Head Quarter,  
 D Block, Plot No. I – 4,  
 Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Authorization for use of Technical / Financial Capability of M/s.....  
 (Insert name of Parent / Affiliate) by M/s ..... (Insert name of Bidding  
 Company / Member of Bidding Consortium).**

We refer to the RFP dated 10.03.2023 ('RFP') issued by you for selection of Bidder as Transmission Service Provider for establishing the Inter-State Transmission System for **"Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C"**.

We confirm that M/s. .... (Insert name of Bidding Company/ Consortium Member) has been authorized by us to use our technical and/or financial capability [strikeout whichever is not applicable] for meeting the Qualification Requirements for **"Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C"**

We have carefully read and examined in detail the RFP including in particular, Clause 2.1.4 of the RFP, and we are also submitting legally binding undertaking supported by a board resolution that all the equity investment obligations of M/s..... (Insert Name of Bidding Company / Consortium Member), shall be deemed to be our equity investment obligations and in the event of any default the same shall be met by us. For and on behalf of M/s..... (Insert Name of Parent / Affiliate)

.....

**(Signature and Name of the authorized signatory of the Company and stamp)**

Name: .....

Date: .....

Place: .....

**Notes:**

1. The above undertaking can be furnished by Ultimate Parent of Technically Evaluated Entity or Financially Evaluated Entity, as the case maybe, if legally binding undertaking is also furnished by the Ultimate Parent on behalf of such Financially Evaluated Entity/Technically Evaluated Entity.

## ANNEXURE 10- FORMAT OF UNDERTAKING BY TECHNICALLY / FINANCIALLY EVALUATED ENTITY / ULTIMATE PARENT COMPANY

**[On the Letter Head of the Technically / Financially Evaluated Entity / Ultimate Parent  
Company]**

Name: .....  
Full Address: .....  
Telephone No.: .....  
E-mail address: .....  
Fax/No.: .....

**To:**

**Chief Executive Officer,  
REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
REC Corporate Head Quarter,  
D Block, Plot No. I – 4,  
Sec – 29 Gurugram – 122 001**

**Sub:        Undertaking for equity investment**

Dear Sir,

We refer to the Request for Proposal dated \_\_\_\_\_ ('RFP') issued by you regarding setting up of Inter-State transmission system for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”** Project on build, own, operate and transfer basis.

We have carefully read and examined in detail the RFP and the RFP Project Documents, including in particular, Clause 2.1.4 of the RFP and Clauses 2.5.2 and 2.5.8 of the RFP, regarding submission of an undertaking regarding the investment in the equity share capital of .....[Insert the name of the SPV] and provisions for minimum equity holding and equity lock-in. We have also noted the amount of the equity investment required to be made in .....[Insert the name of the SPV] by the .....[Insert the name of the Bidder or the Consortium Member] for the Project.

In view of the above, we hereby undertake to you and confirm that in the event of failure of .....[Insert the name of the Bidder or the Consortium Member] to invest in full or in part, in the equity share capital of .....[Insert the name of the SPV] as specified in the Bid, we shall invest the said amount not invested by .....[Insert the name of the Bidder or the Consortium Member] in .....[Insert the name of the SPV] by purchase of existing shares or subscribing to the new shares of .....[Insert the name of the SPV], as stipulated by you.

We have attached hereto certified true copy of the Board resolution whereby the Board of Directors of our Company has approved issue of this Undertaking by the Company.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the RFP.

Certified as true.

.....

**(Signature and Name of the authorized signatory of the Company and stamp)**

**Note:**

1. Wherever required, extract of the charter documents and documents such as a Board resolution should be submitted for verification.

**ANNEXURE 11 - FORMATS FOR BOARD RESOLUTIONS****Format 1****Format of the Board resolution for the Bidding Company / each Member of the Consortium / investing Affiliate / Parent Company / Ultimate Parent Company, where applicable**

[Reference Clause 2.5.2 of the RFP and the illustrations in Annexure 11A]

**[Note:** The following resolution no.1 needs to be passed by the Boards of each of the entity/(ies) making equity investment]

The Board, after discussion, at the duly convened Meeting on ..... [Insert date], with the consent of all the Directors present and in compliance of the provisions of the Companies Act, 1956/2013, passed the following Resolution:

**1. RESOLVED THAT** pursuant to the provisions of the Companies Act, 1956 / Companies Act 2013 (as the case may be) and compliance thereof and as permitted under the Memorandum and Articles of Association of the company, approval of the Board be and is hereby accorded for investment of.....% (.....per cent) of the total equity share capital of {name of the SPV} representing the entire amount proposed to be invested by the company for the transmission system for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”**, partly by acquisition of the existing equity shares from .....[Insert the name of the BPC] and / or partly by subscribing to the new equity shares, as per the terms of the RFP.

**[Note:** Equity investment obligations by the Bidding Company/each Member of the Bidding Consortium/investing Affiliate or Parent or Ultimate Parent should add up to 100%.]

**[Note:** In the event the Bidder is a Bidding Consortium, the following Board resolution no. 2 also needs to be passed by the Lead Member of the Bidding Consortium]

**2. RESOLVED THAT** approval of the Board be and is hereby accorded to contribute such further amount over and above the ;..... percentage (\_\_\_%) limit to the extent becoming necessary towards the total equity share in the {name of the SPV}, obligatory on the part of the company pursuant to the terms and conditions contained in the Consortium Agreement dated .....executed by the company as per the provisions of the RFP.

**[Note:** In the event, the investing entity is an Affiliate or Parent or Ultimate Parent of the Bidder, the following Board resolution no. 3 shall also be passed by the Bidder]

**3. FURTHER RESOLVED THAT** the Board hereby acknowledges the Board Resolution(s) passed by the..... [Name of the Affiliate(s)/ Parent / Ultimate Parent] regarding the investment of.....(....%) of the equity share capital requirements of .....[Insert the name of the SPV], which is to be invested by the .....[Name of the Affiliate(s)/ Parent / Ultimate Parent] for the .....[Insert the name of the SPV], partly by acquisition of the existing equity shares from .....[Name of BPC] and partly by subscribing to the new equity shares, as per the terms of the RFP.

**[Note:** The following resolution no. 4 is to be provided by the Bidding Company / Lead Member of the Consortium only]



4. FURTHER RESOLVED THAT MR/MS .....be and is hereby authorized to take all the steps required to be taken by the Company for submission of the Bid, including in particular, signing of the Bid, making changes thereto and submitting amended Bid, all the documents related to the Bid, certified copy of this Board resolution or letter or undertakings etc, required to be submitted to BPC as part of the Bid or such other documents as may be necessary in this regard.

Certified True Copy

Company rubber stamp to be affixed

**[Notes:**

- 1) This certified true copy should be submitted on the letterhead of the Company, signed by the Company Secretary or any Whole Time Director/ Manager (supported by a specific board resolution) of the Bidding Company or the Lead Member of Consortium.
- 2) The contents of the format may be suitably re-worded indicating the identity of the entity passing the resolution, i.e., the Bidding Company, each Member of the Bidding Consortium.
- 3) This format may be modified only to the limited extent required to comply with the local regulations and laws applicable to a foreign entity submitting this resolution. For example, reference to Companies Act 1956 / Companies Act 2013 (as the case may be) may be suitably modified to refer to the law applicable to the entity submitting the resolution. However, in such case, the foreign entity shall submit an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.]

**Format 2**

**Format for the Board resolution of Technically / Financially Evaluated  
Entity / Ultimate Parent Company (in case credentials of such TEE/ FEE has been utilized by  
the Bidding Company or Bidding Consortium)**

The Board, after discussion, at the duly convened Meeting on ..... [Insert date], with the consent of all the Directors present and in compliance of the provisions of the Companies Act, 1956 / 2013, passed the following Resolution:

**RESOLVED THAT** pursuant to the provisions of the Companies Act, 1956 / Companies Act, 2013 (as the case may be) and compliance thereof and as permitted under the Memorandum and Articles of Association of the company, approval of the Board be and is hereby accorded for issuing an Undertaking to the BPC, in the format specified in the RFP issued by the BPC, draft of which is attached hereto and initialed by the Chairman whereby the company undertakes to invest .....percent (.... %) of the total equity share capital of {name of the SPV} representing the entire amount proposed to be invested by .....[insert the name of the Bidder or Member] for the said Project, in case of failure of .....[Insert the name of the Bidder or Member] to make such investment".

**FURTHER RESOLVED THAT** .....be and is hereby authorized to take all the steps required to be taken by the Company, including in particular, signing the said Undertaking, submitting the same to the BPC through .....[Insert name of Bidding Company/Lead Member of the Consortium] of all the related documents, certified copy of this Board resolution or letter, undertakings etc, required to be submitted to BPC as part of the Bid or such other documents as may be necessary in this regard.

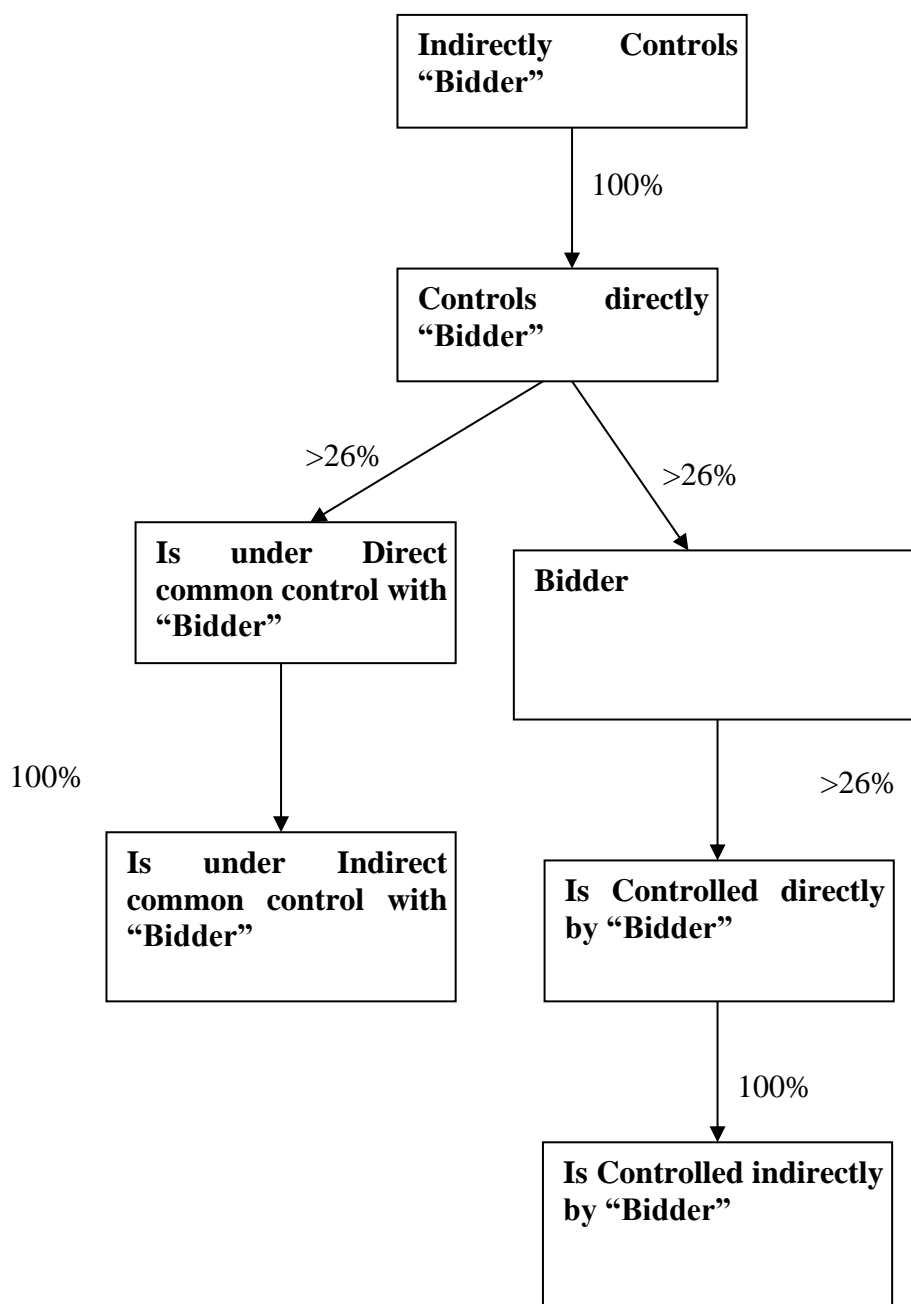
**Certified True Copy****Company rubber stamp to be affixed****Note:**

1. This certified true copy should be submitted on the letterhead of the Company, signed by the Company Secretary or any Whole-time Director/Manager (supported by a specific board resolution) of Bidding Company or Lead Member of the Consortium.
2. The contents of the format may be suitably re-worded indicating the identity of the entity passing the resolution.
3. This format may be modified only to the limited extent required to comply with the local regulations and laws applicable to a foreign entity submitting this resolution. For example, reference to Companies Act 1956 / Companies Act 2013 (as the case may be) may be suitably modified to refer to the law applicable to the entity submitting the resolution. However, in such case, the foreign entity shall submit an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.

**ANNEXURE 11A – ILLUSTRATION FOR APPLICABLE BOARD RESOLUTION  
REQUIREMENTS UNDER CLAUSE 2.5.2**

<b>Investor in the TSP</b>	<b>Entities (other than Bidder) whose credentials (financial and/or technical) used by the Bidder for meeting RFP criteria</b>	<b>Applicable Board Resolutions</b>	<b>Requirement of Undertaking (Annexure 10)</b>
Bidder himself for 100% equity	None	a) Format 1 of Annexure 11 - Resolution: 1, 2 and 4 from the Bidder	None
Bidder himself for 100% equity	Affiliate and/or Parent Company and/or Ultimate Parent	<p>a) Format 1 of Annexure 11 - Resolution: 1, 2, and 4 from the Bidder</p> <p>b) Format 2 of Annexure 11 by either Technically/ Financially Evaluated Entity(ies) whose credentials have been used, or Ultimate Parent.</p> <p>Provided, if the Bidder himself is the Ultimate Parent, then Format 2 need not be provided.</p>	<p>Yes, by either Technically / Financially Evaluated Entity(ies) Affiliate(s) whose credentials have been used, or Ultimate Parent.</p> <p>Provided, if the Bidder himself is the Ultimate Parent, then the undertaking need not be provided.</p>
Bidder himself + others (Affiliate and/or Parent Company and/or Ultimate Parent) in aggregate holding 100% equity	None	<p>a) Format 1 of Annexure 11 - Resolution: 1,2, 3 and 4 from the Bidder.</p> <p>b) Format 1 of Annexure 11 - Resolution: 1 from the Affiliate and /or Parent and /or Ultimate Parent investing in the equity</p>	None
Bidder himself + others (Affiliate and/or Parent Company and/or Ultimate	Affiliate and/or Parent Company and/or Ultimate Parent	<p>a) Format 1 of Annexure 11 - Resolution: 1,2, 3 and 4 from the Bidder.</p> <p>b) Format 1 of Annexure 11 - Resolution: 1 from the Affiliate and/or Parent</p>	Yes, by either Parent/ Affiliate(s) whose credentials have been used, or Ultimate Parent

Investor in the TSP	Entities (other than Bidder) whose credentials (financial and/or technical) used by the Bidder for meeting RFP criteria	Applicable Board Resolutions	Requirement of Undertaking (Annexure 10)
Parent) in aggregate holding 100% equity		and/or Ultimate Parent investing in the equity c) Format 2 of Annexure 11 by either Parent / Affiliate(s) whose credentials have been used and /or Ultimate Parent investing in the equity	

**ANNEXURE 12 - FORMAT FOR ILLUSTRATION OF AFFILIATES**

**NOTE:** Bidder to provide the illustration, as applicable in their case, duly certified by the Company Secretary and supported by documentary evidence in this regard.

**ANNEXURE 13 - FORMAT FOR DISCLOSURE****[On the letter head of Bidding Company / Each Member in a Bidding Consortium]****Date: .....****DISCLOSURE**

We hereby declare that the following companies with which we/ have direct or indirect relationship are also separately participating in this Bid process as per following details

<b>S. No.</b>	<b>Name of the Company</b>	<b>Relationship</b>
<b>1.</b>		
<b>2.</b>		
<b>3.</b>		

In case there is no such company please fill in the column “name of the company” as Nil.

Further we confirm that we don't have any Conflict of Interest with any other company participating in this bid process.

**Certified as True**

.....  
(Signature)

**Name:** .....

**Signature & Name of authorized signatory of the Company and Stamp**

The above disclosure should be signed and certified as true by the authorized signatory of the Bidding Company or of the Member, in case of a Consortium).

**ANNEXURE 14 - FORMAT OF THE BID BOND****FORMAT OF THE UNCONDITIONAL AND IRREVOCABLE BANK  
GUARANTEE FOR BID BOND**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)**

In consideration of the .....[Insert name of the Bidder] submitting the Bid inter alia for establishing the Inter-State transmission system for .....[Name of Project] on build, own, operate and transfer basis, in response to the RFP dated ..... issued by .....[Name of BPC], and the Bid Process Coordinator (hereinafter referred to as BPC) agreeing to consider such Bid of ..... [Insert the name of the Bidder] as per the terms of the RFP, the [Insert name and address of the bank issuing the Bid Bond, and address of the Head Office] (hereinafter referred to as "Guarantor Bank") hereby agrees unequivocally, irrevocably and unconditionally to pay to .....[Name of BPC] or its authorized representative at .....[Address of BPC] forthwith on demand in writing from .....[Name of BPC] or any representative authorized by it in this behalf, any amount up to and not exceeding Rupees ..... Only (Rs ..... Crore), on behalf of M/s.....[Insert name of the Bidder].

This guarantee shall be valid and binding on the Guarantor Bank up to and including ..... [Date to be inserted on the basis of Clause 2.11 of this RFP] and shall not be terminable by notice or any change in the constitution of the Guarantor Bank or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between concerned parties.

Our liability under this Guarantee is restricted to Rupees ..... Only (Rs ..... Crore). Our Guarantee shall remain in force until .....[Date to be inserted on the basis of Clause 2.11 of this RFP]. .....[Name of BPC] or its authorized representative shall be entitled to invoke this Guarantee until ..... [Insert Date, which is three sixty five days (365) days after the date in the preceding sentence]. The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from .....[Name of BPC] or its authorized representative, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to .....[Name of BPC] or its authorized representative.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection, disputes, or disparities raised by the Bidder or any other person. The Guarantor Bank shall not require .....[Name of BPC] or its authorized representative to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against .....[Name of BPC] or its authorized representative in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly \_\_\_\_\_[Name of BPC] or its authorized representative shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Bidder, to make any claim against or any demand on the Bidder or to give any notice to the Bidder to enforce any security held by \_\_\_\_\_[Name of BPC] or its authorized representative or to exercise, levy or enforce any distress, diligence or other process against the Bidder.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rupees \_\_\_\_\_ Only (Rs \_\_\_\_ Crore) and it shall remain in force until ..... [Date to be inserted on the basis of Clause 2.11 of RFP], with an additional claim period of three hundred sixty five (365) days thereafter. We are liable to pay the guaranteed amount or any part thereof under this BANK GUARANTEE only if \_\_\_\_\_[Name of BPC] or its authorized representative serves upon us a written claim or demand.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this..... day of .....at.....

**Witness:**

1.....  
Name and Address

Signature: .....  
Name: .....

2. ....  
Name and Address

Designation with Stamp:

Signature .....

Attorney as per power of attorney  
No.....

For:  
..... [Insert Name of the Bank]

**Banker's Stamp and Full Address:**

Dated this.....day of..... 20.....

**Notes:**

1. The Stamp Paper should be in the name of the Executing Bank.



~~ANNEXURE 14 A- FORMAT OF THE BID SECURITY DECLARATION [VALID TILL  
RFP ISSUED ON OR BEFORE 31.12.2021]~~

**ANNEXURE 15 - FORMAT FOR CONTRACT PERFORMANCE GUARANTEE**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.  
Foreign entities submitting Bids are required to follow the applicable law in their country)**

In consideration of the ..... [Insert name of the SPV or Selected Bidder on behalf of SPV or Lead Member in case of the Consortium, with address] agreeing to undertake the obligations under the Transmission Service Agreement dated ..... and the other RFP Project Documents and the Nodal Agency and ..... [Name of BPC], agreeing to execute the RFP Project Documents with the Selected Bidder, regarding setting up the Project, the.....[Insert name and address of the bank issuing the guarantee and address of the head office] (hereinafter referred to as "Guarantor Bank") hereby agrees unequivocally, irrevocably and unconditionally to pay to the Nodal Agency at..... [Insert Place and Address of the Nodal Agency indicated in TSA] forthwith on demand in writing from the Nodal Agency or any Officer authorized by it in this behalf, any amount up to and not exceeding Rupees.....Crores (Rs.....) only [Insert the amount of the bank guarantee] on behalf of M/s..... [Insert name of the Selected Bidder / SPV].

This guarantee shall be valid and binding on the Guarantor Bank up to and including .....and shall not be terminable by notice or any change in the constitution of the Bank or the term of the Transmission Service Agreement or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rupees ..... Crores (Rs.....) only. Our Guarantee shall remain in force until..... [Insert the date of validity of the Guarantee as per Clause 2.12.1 of the RFP]. The Nodal Agency shall be entitled to invoke this Guarantee up to three hundred sixty five (365) days of the last date of the validity of this Guarantee.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from the Nodal Agency, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to the Nodal Agency.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by {name of the SPV}, ..... [Insert name of the Selected Bidder], ..... [Insert name of the TSP] and/or any other person. The Guarantor Bank shall not require the Nodal Agency to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against the Nodal Agency in respect of any payment made hereunder.

**This BANK GUARANTEE** shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

**This BANK GUARANTEE** shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank.

**This BANK GUARANTEE** shall be a primary obligation of the Guarantor Bank and accordingly the Nodal Agency shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against {name of the SPV} or the Selected Bidder, to make any claim against or any demand on {name of the SPV} or the Selected Bidder, as the case may be, or to give any notice to {name of the SPV} or the Selected Bidder, as the case may be, or to enforce any security held by the Nodal Agency or to exercise, levy or enforce any distress, diligence or other process against {name of the SPV} Transmission Limited or the Selected Bidder, as the case may be.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to the Nodal Agency and may be assigned, in whole or in part, (whether absolutely or by way of security) by Nodal Agency to any entity to whom the Nodal Agency is entitled to assign its rights and obligations under the Transmission Service Agreement.

The Guarantor Bank hereby agrees and acknowledges that the Nodal Agency shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rupees .....Crores (Rs ..... ) only and it shall remain in force until [Date to be inserted on the basis of Article 3.1.2 of TSA], with an additional claim period of three hundred sixty five (365) days thereafter. This BANK GUARANTEE shall be extended from time to time for such period, as may be desired by..... [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if the Nodal Agency serves upon us a written claim or demand.

**In witness where of:**

Signature.....

Name: .....

Power of attorney No.: .....

**For:**

..... [Insert Name of the Bank]

Banker's Seal and Full Address, including mailing address of the Head Office

**Notes:**

1. The Stamp Paper should be in the name of the Executing Bank.

## ANNEXURE 16 – FORMAT OF CHECKLIST FOR TECHNICAL BID SUBMISSION REQUIREMENTS

**[This format needs to be duly filled in, signed by the authorized signatory of the Bidder (Bidding Company / Lead Member in case of a Bidding Consortium) and submitted along with the Bidder's Technical Bid]**

Technical Bid Submission Requirements	Response (Yes / No)
<ol style="list-style-type: none"> <li>1. Format for the Covering Letter on the letterhead of Bidding Company or Lead Member of the Consortium, as applicable;</li> <li>2. Format for Letter of Consent from each Consortium Member, including Lead Member, on their respective letterheads;</li> <li>3. Format for evidence of authorized signatory's authority ;</li> <li>4. Board resolution from the Bidding Company / Lead Member of the Consortium in favour of the person executing the Power of Attorney as per <b>Annexure 3</b>;</li> <li>5. Power of Attorney from each Consortium Member in favour of Lead Member to be provided by each of the other Members of the Consortium as per <b>Annexure 4</b>;</li> <li>6. Board Resolution from each Member of the Consortium, other than the Lead Member, in favour of their respective authorized representatives for executing the POA, Consortium Agreement and signing of the requisite formats;</li> <li>7. Format for Bidder's composition and ownership structure, along with status of equity holding (owning ten percent or more of the total paid up equity) not earlier than thirty (30) days prior to the Bid Deadline as per <b>Annexure 5</b>;</li> <li>8. Consortium Agreement duly signed as per <b>Annexure 6</b>, along with Appendix-1, indicating the responsibilities and obligations of each Member of the Consortium;</li> <li>9. Format for Qualification Requirement:               <ol style="list-style-type: none"> <li>a. Calculation sheets, detailing computation of Networth considered for meeting Qualifying Requirements, duly signed and stamped by the Statutory Auditor of the Bidding Company / each Member in case of a Bidding Consortium / FEE in cases where credentials of FEE is taken;</li> <li>b. Calculation sheets, detailing computation of capital expenditure of projects and revenue received in construction projects considered for meeting Qualification Requirements, duly signed and stamped by the Statutory Auditor of the Bidding Company / Lead Member in case of Bidding Consortium / TEE in cases where credentials of TEE is taken;</li> <li>c. Last financial year unconsolidated / consolidated audited annual accounts / statements, as the case may be, of the Financially Evaluated Entity / Technical Evaluated Entity</li> <li>d. Unconsolidated audited annual accounts of both the TEE and the Bidding Company/Lead member, as applicable, from the financial years in which financial closure was achieved till the financial year in which the said project was completed / commissioned.</li> </ol> </li> </ol>	

Technical Bid Submission Requirements	Response (Yes / No)
<ol style="list-style-type: none"> <li>10. Copy of the Memorandum and Articles of Association and certificate of incorporation or other organizational document (as applicable), including their amendments, certified by the Company Secretary of Bidding Company or each Member in case of a Consortium including Lead Member.</li> <li>11. Attachment of <b>Annexure 7(D)</b>, detailing projects completed / commissioned and for which commercial operation has commenced including Executive Summary for each project.</li> <li>12. For each project listed in the attachment above, certified true copy of the certificates of final acceptance and / or certificates of good operating performance duly issued by owners or clients for the project, duly signed by authorized signatory in support of technical capability as defined in Clause 2.1.2 of RFP.</li> <li>13. Authority letter in favour of BPC from the Bidder/every Member of the Consortium authorizing the BPC to seek reference from their respective bankers &amp; others.</li> <li>14. Authorization from Parent / Affiliate of Bidding Company / Member of Bidding Consortium whose technical / financial capability has been used by the Bidding Company / Member of Bidding Consortium.</li> <li>15. Initialing of all pages of Technical Bid by the Authorized Signatory in whose favour the POA (<b>Annexure 3</b>) has been executed.</li> <li>16. Format for Illustration of Affiliates at the most seven (7) days prior to the Bid Deadline, duly certified by Company Secretary and supported by documentary evidence.</li> <li>17. Certified copy of the Register of Members / Demat Account Statement, Share Certificate, Annual Return filed with ROC etc. submitted as documentary evidence along with <b>Annexure 12</b>.</li> <li>18. Format for Disclosure by Bidding Company / each Member of the Consortium.</li> <li>19. Format for Affidavit by the Bidding Company / each Member of the Consortium</li> <li>20. Format for Authorization submitted in Non-Judicial stamp paper duly notarized.</li> <li>21. Bidders Undertaking and details of Equity Investment</li> <li>22. Proof of Payment of RFP Fees</li> <li>23. Bid Bond/<del>Bid Security Declaration (As applicable)</del></li> <li>24. Board Resolution as per Annexure 11 (If required)</li> </ol>	

[**Note:** The checklist is not exhaustive. Bidders are required to submit all the information/documents as per requirement of RFP]

**For and on behalf of Bidder**

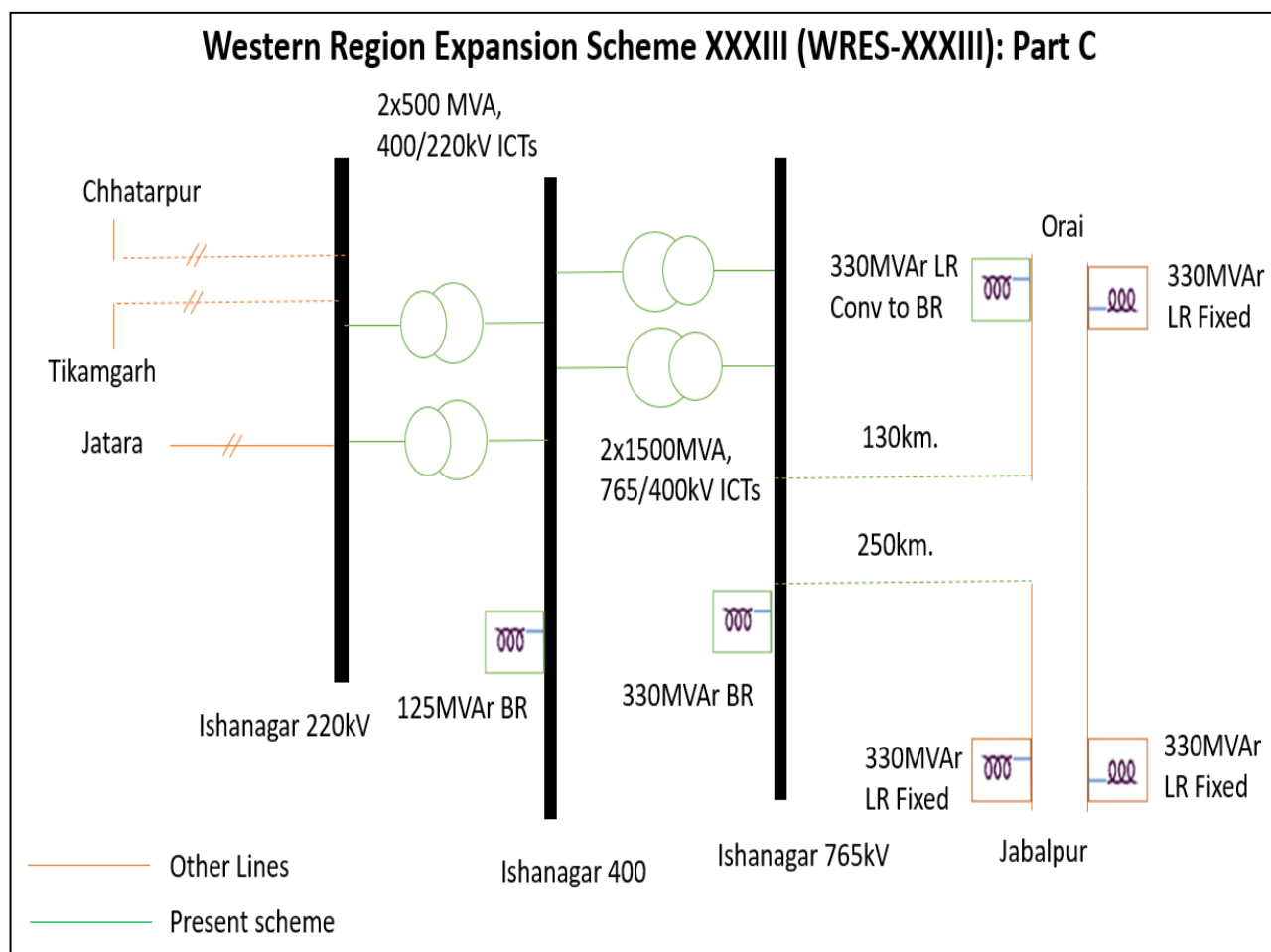
**M/s.** .....

.....  
**(Signature of authorized signatory)**

**ANNEXURE 17 – LIST OF BANKS**

All Scheduled Commercial Banks as per Second Schedule of RBI Act-1934 and any amendments thereof.

## ANNEXURE 18 - GRID MAP OF THE PROJECT





## ANNEXURE 19 - FORMAT FOR CLARIFICATIONS / AMENDMENTS ON THE RFP / RFP PROJECT DOCUMENTS

S. No.	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment

Signature .....

Name.....

For

**Bidder's Rubber Stamp and Full Address.**

(Note: This format shall be used for submission of requests for clarifications/ amendments on the draft RFP Project Documents as per the provisions of Clause 2.3.1)

**ANNEXURE 20 - LIST FOR RFP PROJECT DOCUMENTS**

**ENCLOSURE 1: TRANSMISSION SERVICE AGREEMENT (Provided separately)**

**ENCLOSURE 2: SHARE PURCHASE AGREEMENT (Provided Separately)**

**ANNEXURE 21 - FORMAT FOR FINANCIAL BID****[To be uploaded online]****Quoted Transmission Charges .....****Notes**

1. The Bidders are required to ensure compliance with the provisions of Clause 2.5.3 of this RFP.
2. Quotes to be in Rupees Millions and shall be up to two (2) decimal points.
3. The contents of this format shall be clearly typed.
4. The Financial Bid shall be digitally signed by the authorized signatory in whose name power of attorney as per Clause 2.5.2 is issued.
5. Ensure only one value for annual Transmission Charges is quoted. The same charge shall be payable every year to TSP for the term of TSA.

**ANNEXURE 22 – FORMAT FOR AFFIDAVIT**

**[On non-judicial stamp paper. Foreign companies submitting bids are required to follow the applicable law in their country]**

**AFFIDAVIT**

We [including any of our Affiliate and Consortium Member & any of its Affiliate], hereby declare that as on Bid Deadline:

- a. the Bidder & any of its Affiliate including any Consortium Member & any of its Affiliate, their directors or key personnel have not been barred or included in the blacklist by any government agency or authority in India, the government of the jurisdiction of the Bidder or Members where they are incorporated or the jurisdiction of their principal place of business, any international financial institution such as the World Bank Group, Asian Development Bank, African Development Bank, Inter-American Development Bank, Asian Infrastructure Investment Bank etc. or the United Nations or any of its agencies; or
- b. the Bidder & any of its Affiliate including any Consortium Member & any of its Affiliate or their directors have not been convicted of any offence in India or abroad.

We further declare that following investigations are pending / no investigation is pending [strike off whichever is not applicable] against us [including any of our Consortium Member or Affiliate or Parent or Ultimate Parent or Affiliate] or CEO or any of our directors/ manager/key managerial personnel of the Applicant /Consortium Member or their Affiliates.

We further undertake to inform the BPC of any such matter as mentioned above on its occurrence after the date of this affidavit till the Effective Date.

We undertake that, in case, any information provided in relation to this affidavit is found incorrect at any time hereafter, our BID / Letter of Intent / contract (if entered) would stand rejected / recalled / terminated, as the case may be.

.....  
Signature and Name of the authorized signatory of the Company Bidding Company / Lead Member of the Bidding Consortium

.....  
(Signature of Notary Public)

Place: .....  
Date: .....

Note: In case any investigation is pending against the Applicant, including any Consortium Member or Affiliate, or CEO or any of the directors/ manager/key managerial personnel of the Applicant /Consortium /Member or their Affiliates, full details of such investigation including the name of the investigating agency, the charge/offence for which the investigation has been launched, name and

designation of persons against whom the investigation has been launched and other relevant information should be disclosed under this affidavit.

## ANNEXURE A

### Technical Details with respect to electronic bidding

#### Registration Methodology

In order to submit online bids in the e-bidding process for selection of Transmission Service Provider, interested Bidders are required to register themselves with the e-procurement website of MSTC limited namely <https://www.mstcecommerce.com/eproc/>. To register with the website, the Bidder is required to fill up the online form available under the link Register as Vendor in the above website and fill up the same and click on Submit.

During this process, the bidder shall create his user id and password and keep note of the same. The bidder shall ensure that the secrecy of his user id and password is maintained at all time and he/she shall alone be responsible for any misuse of the user id and password.

The bidder may check the details entered by it before final submission. On successful submission of the online registration Form, the bidder shall receive a confirmation mail in the registered email address advising the bidder to submit the following documents.

- i. Self-attested Income Tax PAN Card. In case of a registered Company or Firm, the Firm's PAN card and in case of a proprietorship firm, proprietor's personal PAN card is required. In case of partnership firm, PAN of the firm and that of the authorized partner are to be submitted.
- ii. Copy of the confirmation email Letter received from MSTC after successful completion of on-line registration.
- iii. A non-refundable registration fee of Rs 10,000/- plus applicable GST to be paid online.

Please provide details of payment made like UTR No, remitting bank name, date of payment and amount in the covering letter.

The bidder shall have to submit all the above documents to MSTC Limited for verification and activation of their login ids. The bidders should send scanned copies of the above documents to the designated email id only which is given below:

<https://www.mstcecommerce.com/eproc/>

It may be noted that bidders need not visit any of the offices of MSTC Limited for submission of the documents.

Contact persons of MSTC Limited:

**Mr. Setu Dutt Sharma, 7878055855**

Once the complete set of documents and requisite registration fee are received from a bidder, MSTC shall activate the bidder's login after verification / scrutiny of the documents. MSTC Limited reserves the right to call for additional documents from the bidder if needed and the bidder shall be obliged to submit the same.

On completion of the above stated registration process, a bidder shall be able to login to MSTC's website.

## ANNEXURE B

### Draft Pre-Award Integrity Pact

#### GENERAL

This pre-bid contract Agreement (herein after called the Integrity Pact) is made on ..... day of the month of ..... 20....., between, on one hand, ..... [Insert name of BPC] through Shri ..... [Insert Name & designation of representative of BPC] (hereinafter called the "Bid Process Coordinator/ BPC", which expression shall mean and include, unless the context otherwise requires, his successors in the office and assigns) of the First Part and M/s ..... represented by Shri ..... [Insert Name & Designation of Authorized Signatory of the Bidder/ Lead Member of Consortium] (hereinafter called the "Bidder" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BPC is conducting the bidding process for selection of bidder as Transmission Service Provider (TSP) for transmission system for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”** who will be responsible to set up the transmission project on build, own, operate and transfer (BOOT) basis and to provide Transmission Service.

WHEREAS the Bidder is a Private Company/Public Company/Government Undertaking/ Partnership, constituted in accordance with the relevant law in the matter and the BPC is a Public Sector Undertaking (PSU) performing its function on behalf of the Ministry of Power, Government of India.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings during the complete bidding process with a view to:-

Enabling the BPC to select the bidder as TSP in conformity with the defined procedures by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling Bidder to abstain from bribing or indulging in any corrupt practice in order to emerge as selected bidder by providing assurance to them that their competitors will also abstain from bribing and other practices and the BPC will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

#### **Commitments of BPC**

- 1.1 The BPC undertakes that no official of the BPC, connected directly or indirectly with the bidding process, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the bidding process in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.



- 12 The BPC will, during the bidding stage, treat all bidders alike, and will provide to all bidders the same information and will not provide any such information to any particular bidder which could afford an advantage to that particular bidder in comparison to the other bidders.
- 13 All the officials of the BPC will report the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 2 In case of any such preceding misconduct on the part of such official(s) is reported by the Bidder to the BPC with the full and verifiable facts and the same is *prima facie* found to be correct by the BPC, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BPC and such a person shall be debarred from further dealings related to the bidding process. In such a case while an enquiry is being conducted by the BPC the proceedings under the bidding process would not be stalled.

### **Commitments of Bidder**

- 3 The Bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre award stage in order to emerge as Selected Bidder or in furtherance to secure it and in particular commits itself to the following:-
  - 3.1 The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BPC, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the bidding process in exchange for any advantage in the bidding, evaluation, contracting and implementation of the bidding process.
  - 3.2 The Bidder further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BPC or otherwise in bidding process or for bearing to do or having done any act in relation to bidding process or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the bidding process or any other contract with the Government.
  - 3.3 The Bidder shall disclose the name and address of agents and representatives and Indian Bidder shall disclose their foreign principals or associates.
  - 3.4 The Bidder shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid .
  - 3.5 The Bidder further confirms and declares to the BPC that the Bidder has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BPC or any of its functionaries, whether officially or unofficially for selection of Bidder as TSP, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
  - 3.6 The Bidder, either while presenting the bid or during pre-award negotiations or before signing

the Share Purchase Agreement, shall disclose any payments he has made, is committed to or intends to make to officials of the BPC or their family members, agents, brokers or any other intermediaries in connection with the bidding process and the details of services agreed upon for such payments.

- 37 The Bidder will not collude with other parties interested in the bidding process to impair the transparency, fairness and progress of the bidding process.
- 38 The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 39 The Bidder shall not use improperly, for purpose of competition or personal gain, or pass on to others, any information provided by the BPC as part of the business relationship, regarding plans, technical proposal and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The Bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BPC.

#### **4 Previous Transgression**

- 4.1 The Bidder declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Bidder's exclusion from the bidding process.
- 4.2 The Bidder agrees that if it makes incorrect statement on this subject, Bidder can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

#### **5 Bid Bond (Security Deposit)**

- 5.1 Along with the technical bid, the Bidder shall submit Bid Bond for an amount of Rs. .... (as per the amount specified in Request for Proposal (RFP) Document) issued by ..... [Insert Name of the Banks from the list provided in RFP Document] as Earnest Money/Security Deposit, with the BPC.
- 5.2 The Earnest Money/Security Deposit shall be valid & retained by the BPC for such period as specified in the RFP Document.
- 5.3 No interest shall be payable by the BPC to the Bidder on Earnest Money/Security Deposit for the period of its currency.

## 6 Sanctions for Violations

- 61 Any breach of the aforesaid provisions by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the BPC to take all or anyone of the following actions, wherever required:-
- (i) To immediately call off the pre-award negotiations without assigning any reason or giving any compensation to the Bidder. However, the proceedings with the other Bidder (s) would continue.
  - (ii) The Bid Bond (in pre-award stage) shall stand forfeited either fully or partially, as decided by the BPC and the BPC shall not be required to assign any reason therefore.
  - (iii) To immediately cancel the award, if already awarded, without giving any compensation to the Bidder.
  - (iv) To cancel all or any other contracts with the Bidder. The Bidder shall be liable to pay compensation for any loss or damage to the BPC resulting from such cancellation/rescission.
  - (v) To debar the Bidder from participation in any tender or RFP issued by any BPC for an indefinite period.
  - (vi) To recover all sums paid in violation of this Pact by Bidder to any middleman or agent or broker with a view to securing the award.
- 62 The BPC will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (vi) of this Pact also on the Commission by the Bidder or anyone employed by it or acting on its behalf (whether with or without the knowledge of the Bidder), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 63 The decision of the BPC to the effect that a breach of the provisions of this Pact has been committed by the Bidder shall be final and conclusive on the Bidder. However, the Bidder can approach the Independent Monitor(s) appointed for the purposes of this Pact.

## 7 Independent Monitors

- 7.1 The BPC has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Names and Addresses of the Monitors to be given).
- 7.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- 7.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- 7.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- 7.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so

inform the Authority designated by the BPC.

- 76 The Bidder accepts that the Monitors has the right to access without restriction to all Project documentation of the BPC including that provided by the Bidder. The Monitor shall be under contractual obligation to treat the information and documents of the Bidder /Subcontractors(s) with confidentiality. [As all the bid documents are with BPC only]
- 77 The BPC will provide to the Monitors sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the monitor the option to participate in such meetings.
- 78 The Monitor will submit a written report to the designated Authority of the BPC/Secretary in the Department within 8 to 10 weeks from the date of reference or intimation to him by the BPC / Bidder and, should the occasion arise, submit proposals for correcting problematic situations.

## **8. Facilitation of Investigation**

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BPC or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder and the Bidder shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

## **9. Law and Place of Jurisdiction**

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BPC.

## **10. Other Legal Actions**

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the any extent law in force relating to any civil or criminal proceedings.

## **11. Validity**

- 11.1 The validity of this Integrity Pact shall be from date of its signing and upto 6 months from the date of transfer of project specific SPV i.e. signing of Share Purchase Agreement with BPC. In case Bidder is unsuccessful, this Integrity Pact shall expire after 15 days from the date of transfer of project specific SPV to successful bidder.
- 11.2 Should one or several provisions of this Pact turn out to be invalid, the remainder of this Pact shall remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 12 The Parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_

Bid Process Coordinator (BPC)	BIDDER
Name of the Officer Designation Name of the BPC with address	Name of Whole time Director/Authorized Signatory Name of the Bidder with address
Witness: 1. _____ 2. _____	Witness: 1. _____ 2. _____

## ANNEXURE C

### Technical Specifications of Transmission System

#### **SPECIFIC TECHNICAL REQUIREMENTS FOR TRANSMISSION LINE**

- A.1.0 The design, routing and construction of transmission lines shall be in accordance with Chapter V, Part A of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.
- A.2.0 Selection of tower type shall be made as per CEA Regulations, however in case lattice type towers are used, the following shall also be applicable:
- A.2.1 Steel section of grade E 250 and/or grade E 350 as per IS 2062, only are permitted for use in towers, extensions, gantry structures and stub setting templates. For towers in snowbound areas, steel sections shall conform to Grade-C of IS-2062.
- A.2.2 Towers shall be designed as per IS-802:2015, however the drag coefficient of the tower shall be as follows: -

<b>Solidity Ratio</b>	<b>Drag Coefficient</b>
Upto 0.05	3.6
0.1	3.4
0.2	2.9
0.3	2.5
0.4	2.2
0.5 and above	2.0

- A.3.0 Transmission Service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.
- A.4.0 Transmission line shall be designed considering wind zones as specified in wind map given in National Building Code 2016, Vol.1. The developer shall also make his own assessment of local wind conditions and frequent occurrences of high intensity winds (HIW) due to thunderstorms, dust-storms, downburst etc. along the line route and wherever required, higher wind zone than that given in wind map shall be considered for tower design for ensuring reliability of line. Further, for transmission line sections passing within a distance of 50 km from the boundary of two wind zones, higher of the two wind zones shall be considered for design of towers located in such sections.
- A.5.0 Selection of reliability level for design of tower shall be as per CEA Regulation (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time.
- A.6.0 A) For power line crossing of 400kV or above voltage level (if crossed over the existing line), large angle & dead end towers (i.e. D/DD/QD) shall be used on either side of power line crossing.
- B) For power line crossing of 132kV and 220kV (or 230kV) voltage level, angle towers

(B/C/D/DB/DC/DD/QB/QC/QD) shall be used on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.

C) For power line crossing of 66kV and below voltage level, suspension/tension towers shall be provided on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.

D) For crossing of railway tracks, national highways and state highways, the Rules/Regulations of appropriate authorities shall be followed.

A.7.0 The relevant conductor configuration shall be as follows: -

Transmission line	ACSR Conductor specified	Equivalent AAAC conductor based on 53.5% conductivity of Al Alloy	Equivalent minimum size of AL59 conductor based on 59% conductivity of AL Alloy*	Sub- conductor Spacing
765kV D/C (Hexa Zebra) transmission lines	<p>Zebra : Stranding 54/3.18 mm-Al + 7/3.18 mm-Steel, 428 sq mm, Aluminium area, 28.62 mm diameter</p> <p>Maximum DC Resistance at 20°C (<math>\Omega</math>/km): 0.06868</p> <p>Minimum UTS: 130.32 kN</p>	<p>Stranding details: 61/3.19mm, 28.71 mm diameter; 487.5 sq.mm Aluminium alloy area</p> <p>Maximum DC Resistance at 20°C (<math>\Omega</math>/km): 0.06815</p> <p>Minimum UTS: 135.6 kN</p>	<p>Stranding details: 61/3.08mm, 27.72 mm diameter; 454 sq.mm Aluminium alloy area</p> <p>Maximum DC Resistance at 20°C (<math>\Omega</math>/km): 0.0653</p> <p>Minimum UTS: 108 kN</p>	457 mm

Note:

\*1. To select any size above the minimum, the sizes mentioned in the relevant Indian standard i.e IS-398(part-6) shall be followed.

2. The transmission lines shall have to be designed for a maximum operating conductor temperature of 85 deg C.

A.8.0 The required phase to phase spacing and horizontal spacing for 765kV line shall be governed by the tower design as well as minimum live metal clearances for 765kV voltage level under different insulator swing angles. However, the phase to phase spacing for 765kV line shall not be less than 15m.

A.9.0 Electrical clearances including minimum live metal clearance, ground clearance and minimum mid span separation between earth wire and conductor as given below shall be considered:

a) Minimum live metal clearances for 765 kV line:

(i) Under stationary conditions

From tower body: For 765 kV D/C: 6.1 m

For 765 kV S/C: 5.6 m

(ii) Under swing conditions

Wind pressure Condition	Minimum electrical clearance
a) Swing angle (25°)	4.4 m
b) Swing angle (55°)	1.3 m

b) Minimum ground clearance: 18 m

c) Minimum mid span separation between earthwire and conductor: 9.0 m

A.10.0 Shielding angle shall not exceed 10 deg for 765kV D/C Line transmission line.

A.11.0 The Fault current for design of line shall be 50kA for 1 sec for 765kV.

A.12.0 In case of 765kV voltage class lines, at least one out of two earth wires shall be OPGW and second earth wire, if not OPGW, shall be either of galvanized standard steel (GSS) or AACSR or any other suitable conductor type depending upon span length and other technical consideration.

A.13.0 Each tower shall be earthed such that tower footing impedance does not exceed 10 ohms. Pipe type or Counterpoise type earthing shall be provided in accordance with relevant IS. Additional earthing shall be provided on every 7 to 8 kms distance for direct earthing of both shield wires. If site condition demands, multiple earthing or use of earthing enhancement compound shall be used.

A.14.0 Pile type foundation shall be used for towers located in river or creek bed or on bank of river having scourable strata or in areas where river flow or change in river course is anticipated, based on detailed soil investigation and previous years' maximum flood discharge of the river, maximum velocity of water, highest flood level, scour depth & anticipated change in course of river based on river morphology data of at least past 20 years to ensure availability and reliability of the transmission line.

A.15.0 Transmission line route shall be finalized, in consultation with appropriate authorities so as to avoid the habitat zones of endangered species and other protected species. Bird diverters, wherever required, shall be provided on the line.

A.16.0 Wherever, transmission lines are passing through cyclone prone areas i.e. areas upto 60 km from coast following shall also be applicable:

- Terrain category-I, with terrain roughness factor (K2) of 1.08 shall be considered for tower design for exposed open terrain with few or no obstruction which also includes open sea coasts, open stretch of water, desert and flat treeless plains
- Importance factor for cyclonic region (K4) of 1.3 shall be considered for tower design.
- The number of consecutive spans between the section points/ angle point shall not exceed



10 spans or 3km instead of conventional practice of 15 spans or 5km, in order to reduce the failure of such towers in coastal areas due to cascading effect. The section shall be terminated with tension tower/ angle tower and angle of deviation should be based on the site requirement.

A.17.0 Wherever, transmission lines are passing through cyclone prone areas (i.e. areas upto 60 km from coast)/ creek regions/ aggressive soil areas following shall also be applicable:

- a) The fabricated tower parts and stubs shall have a minimum overall zinc coating of 900 g m<sup>2</sup> of surface area except for plates and sections below 5mm which shall have a minimum overall zinc coating of 610 g m<sup>2</sup> of surface area. The average zinc coating for all sections and plates 5 mm and above shall be maintained as 127 microns and that for plates and sections below 5mm shall be maintained as 87 microns.
- b) Ready mix concrete of M30 Grade shall be used to avoid use of locally available saline water. However, design mix concrete of M30 Grade conforming to IS 456 with potable water can be used at locations where transportation of ready-mix concrete is not feasible. Minimum cement content in any case shall not be less than 330kg/m<sup>3</sup>.
- c) The surface of the reinforced steel shall be treated with epoxy-based coating to enhance corrosion performance of foundation. Use of epoxy coated reinforcement in foundation shall be as per IS 13620. In addition, two (2) coats of bituminous painting of minimum 1.6kg/m<sup>2</sup> per coat shall be applied on all exposed faces of foundation (i.e. pedestal & base slab).
- d) Double coat of 20 mm thick cement plaster shall be provided on all exposed concrete surface as well up to 300 mm below ground level to give protection to concrete surface from environmental and saline effect.
- e) Before coping of chimney top portion, three coats of anti-corrosive paint of minimum 30-35 microns dry film thickness each shall be applied on the stub in the 50mm coping portion as well as up to 350 mm above CL portion.

A.18.0 The raised chimney foundation is to be provided in areas prone to flooding/water stagnation like paddy field /agricultural field & undulated areas to avoid direct contact of water with steel part of tower. The top of the chimney of foundation should be at least above HFL (High Flood Level) or the historical water stagnation/ logging level (based on locally available data) or above High Tide Level or 500 mm above Natural Ground level (whichever is higher).

A.19.0 Routing of transmission line through protected areas of India shall be avoided to the extent possible. In case, it is not possible to avoid protected areas, the towers of the transmission line upto 400 kV level which are installed in protected areas shall be designed for Multi-circuit (4 circuits) configuration of same voltage level considering reliability level of at least two (2). The top two circuits of these multi-circuit towers shall be used for stringing of the transmission line under present scope and the bottom two circuits shall be made available for stringing of any future transmission line of any transmission service providers/ State transmission utilities/Central transmission utilities passing through the same protected area. Further, the configuration and coordinates of such transmission towers shall be submitted to CEA, CTU & BPC by the TSP.

A.20.0 The TSP shall abide by the Guidelines of CEA w.r.t. shifting of transmission lines for NHAI projects and other projects.

## **SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION**

The **proposed 765/400/220kV Ishanagar (New)** Substation shall be conventional AIS type generally conforming to the requirements of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022 as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.

### **B.1.0 Salient features of Substation Equipment and Facilities**

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

#### **B.1.1 Insulation Coordination**

The system design parameters for substations/switchyards shall be as given below:

Sl. No	Description of parameters	765/400/220kV Ishanagar (New) S/S		
		765 kV System	400 kV System	220 kV System
1.	System operating voltage	765kV	400kV	220kV
2.	Maximum voltage of the system (rms)	800kV	420kV	245kV
3.	Rated frequency	50Hz	50Hz	50Hz
4.	No. of phase	3	3	3
5.	Rated Insulation levels			
i)	Lighting Impulse withstand voltagefor (1.2/50 micro sec.) - for Equipment other than Transformer and Reactors - for Insulator String	2100kVp 2100kVp	1425kVp 1550kVp	1050kVp 1050kVp
ii)	Switching impulse withstand voltage (250/2500 micro sec.) dry and wet	1550kVp	1050kVp	-
iii)	One minute power frequency dry withstand voltage (rms)	830 kV	630 kV	
iv)	One minute power frequency dry and wet withstand voltage (rms)	-	-	460kV
6.	Corona extinction voltage	508 kV	320kV	-
7.	Max. radio interferencevoltage for frequency between 0.5 MHz and 2MHz	2500 micro-volts at 508kV rms	1000 micro-volts at 266kV rms	1000 micro-volts at 156kV rms
8.	Minimum creepage distance for insulator string/ longrod insulators/outdoor bushings	24800 mm (31mm/kV)	13020 mm (31mm/kV)	7595 mm (31mm/kV)
9.	Minimum creepage distance for switchyard equipment	20000 mm (25mm/kV)	10500mm (25mm/kV)	6125 mm (25mm/kV)

Sl. No	Description of parameters	765/400/220kV Ishanagar (New) S/S		
		765 kV System	400 kV System	220 kV System
10.	Max. fault current	50kA	63kA	50kA
11.	Duration of fault	1 Sec	1 sec	1 Sec

### B.1.2 Switching Scheme

The switching schemes, as mentioned below, shall be adopted at various voltage levels of substation/switchyard:

Substation	765kV side	400kV side	220kV side
<b>765/400/220 kV Ishanagar (New) S/S (AIS)</b>	One & half breaker	One & half breaker	Double Main & Transfer

#### Notes: -

- For one and half breaker switching scheme, any double circuit line consisting of two numbers feeders and originating from the same transmission or generating switchyard shall not be terminated in one diameter.
- Two transformers of same HV rating shall not be connected in the same diameter and similarly two bus reactors of same HV rating shall also not be connected in the same diameter.
- A diameter in one and half breaker scheme is a set of 3 circuit breakers with associated isolators, earth switches, current transformers etc. for controlling of 2 numbers feeders.
- Connection arrangement of Switchable Line reactors shall be such that it can be used as Line reactor as well as Bus reactor with suitable NGR bypass arrangement.
- Bus sectionalizer:  
One (1) set of bus sectionalizer for 765kV & 400 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.  
One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses and isolator for Transfer bus.
- TSP shall plan distribution of line and transformer feeders to bus bar in such a way that all power can be evacuated successfully without crossing thermal limit at any point of bus-bar.
- For AIS type substation, TSP shall keep space provisions for future elements such that interconnection arrangement to the corresponding future bays can be done with overhead AIS type connection without any cable/ GIS duct.

### B.2.0 Substation Equipment and facilities (Voltage level as applicable):

The switchgear shall be designed and specified to withstand operating conditions and duty requirements. All equipment shall be designed considering the following capacity:

Sl.No	Description of bay	765/400/220 kV Ishanagar (New) S/S		
		765kV	400kV	220 kV
1.	Bus Bar	4000A	4000A	3000A
2.	Line bay	3150A	3150A	1600A
3.	ICT bay	3150A	3150A	1600A

Sl.No	Description of bay	765/400/220 kV Ishanagar (New) S/S		
		765kV	400kV	220 kV
4.	Bus Reactor bay	3150A	3150A	N/A
5.	Bus Coupler bay	N/A	N/A	3000A
6.	Transfer Bus coupler bay	N/A	N/A	1600A

### B.2.1 (765/√3)/(400/√3)/33 kV, Single Phase Autotransformer

500 MVA, (765/√3)/(400/√3)/33kV, 1-phase autotransformer (including arrangement for 3-phase bank formation of 1500 MVA) shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)", as amended upto date available on CEA website.

Spare 1-phase Transformer unit shall be placed and connected in such a way that the spare unit can be utilized to replace any unit of any of the transformer banks (including for future transformer banks) without physically moving it.

### B.2.2 (765/√3) kV, Single Phase Shunt Reactor

110 MVAR, 765/√3 kV, 1-Phase Reactor (including arrangement for 3-phase bank formation of 330 MVAR) shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended upto date available on CEA website.

Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and line reactor banks (including for future reactor banks) without its physical movement.

### B.2.3 400/220/33kV, 3-phase Autotransformer

500 MVA 400/220/33kV, 3-phase autotransformer shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended up to date available on CEA website.

### B.2.4 420kV, 3-Phase, Shunt Reactor

125 MVAR, 420 KV, 3-Phase Reactor shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended up to date available on CEA website.

### B.2.5 765kV, 400kV & 220kV AIS Substation equipment (as applicable)

#### B.2.5.1 Circuit Breakers (AIS)

The circuit breakers and accessories shall conform to IEC: 62271-100, IEC: 62271-1 and shall be of SF6 Type. The circuit breakers shall be of class C2-M2 (as per IEC) with regard to restriking probability during capacitive current breaking and mechanical endurance. The rated break time shall not exceed 40 ms for 765 kV & 400 kV circuit breakers and 60 ms for 220 kV circuit breakers. The Circuit breakers controlling 765 kV lines shall be provided with pre-insertion closing resistor of about 450 ohms maximum with 9 ms insertion time or Controlled Switching

Device. The Circuit breakers controlling 400kV lines shall be provided with pre insertion closing resistor of about 400 ohms with 8 ms insertion time or Controlled Switching Device (CSD) for lines longer than 200 km. 765kV, 400kV and 220kV 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. The controlled switching device shall be provided in Circuit breakers of switchable line reactor bay and in Main & Tie bay circuit breakers of line with non-switchable line reactors Bus reactors and 765/400kV Transformers.

#### **B.2.5.2 Isolators (AIS)**

The isolators shall comply to IEC 62271-102 in general. 765kV Isolator design shall be double break or vertical break or knee-type. 400kV & 220kV isolator shall be double break type. All Isolators and earth switches shall be motor operated. Earth switches shall be provided at various locations to facilitate maintenance. Isolator rated for 765kV, 400kV & 220kV shall be of extended mechanical endurance class - M2 and suitable for bus transfer current switching duty as per IEC-62271-102. Main blades and earth blades shall be interlocked and interlock shall be fail safe type. 765kV, 400kV & 220kV earth switches for line isolator shall be suitable for induced current switching duty as defined for Class-B.

#### **B.2.5.3 Current Transformers (AIS)**

Current Transformers shall comply with IEC 61869 in general. All ratios shall be obtained by secondary taps only. Generally, Current Transformers (CT) for 765kV & 400kV shall have six cores (four for protection and two for metering). 220kV Current Transformers shall have five cores (four for protection and one 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 it shall be 0.2S. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 20VA for metering core) for better sensitivity and accuracy. The instrument security factor shall be less than 5 for CTs upto 400kV and less than 10 for CTs of 765kV voltage class.

#### **B.2.5.4 Capacitive Voltage Transformers (AIS)**

Capacitive Voltage transformers shall comply with IEC 61869 in general. These shall have three secondaries out of which two shall be used for protection and one for metering. Accuracy class for protection cores shall be 3P and for metering core shall be 0.2. The Capacitive voltage transformers on lines shall be suitable for Carrier Coupling. The Capacitance of CVT for 400kV and 220kV shall be of 4400/8800 pF depending on PLCC requirements whereas the Capacitance of CVT for 765kV shall be 8800 pF. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 50VA for metering core) for better sensitivity and accuracy.

#### **B.2.5.5 Surge Arresters (AIS)**

624 kV & 336 kV Station High (SH) duty gapless type Surge arresters with thermal energy (Wth) of minimum 13 kJ/kV and 12 kJ/kV conforming to IEC 60099-4 in general shall be provided for 765 kV and 400 kV systems respectively. 216 kV Station Medium (SM) duty gapless type Surge arresters with thermal energy (Wth) of minimum 7 kJ/kV conforming to IEC 60099-4 in general shall be provided for 220 kV systems. Other characteristics of Surge

arrester shall be chosen in accordance with system requirements. Surge arresters shall be provided near line entrances, Transformers & Reactor so as to achieve proper insulation coordination. Surge Arresters shall be provided with porcelain/ polymer housing fitted with pressure relief devices. A leakage current monitor with surge counter shall be provided with each surge arrester.

### **B.2.6. Protection Relaying & Control System**

The protective relaying system proposed to be provided for transmission lines, auto-transformers, reactors and bus bars to minimize the damage to the equipment in the events of faults and abnormal conditions, is dealt in this section. All main protective relays shall be numerical type with IEC 61850 communication interface and should have interoperability during integration of numerical relays to communicate over IEC 61850 protocol with RTU/SAS/IEDs of different OEMs. All numerical relays shall have built in disturbance recording feature.

The protection circuits and relays of transformer and reactor shall be electrically and physically segregated into two groups each being independent and capable of providing uninterrupted protection even in the event of one of the protection groups failing, to obtain redundancy, and to take protection systems out for maintenance while the equipment remains in service.

#### **a) Transmission Lines Protection**

765kV, 400kV and 220kV lines shall have Main-I numerical three zone distance protection scheme with carrier aided inter-tripping feature. 765kV, 400kV and 220kV lines shall also have Main-II numerical distance protection scheme like Main-I but from different make that of Main-I. The Main-I and Main-II protection relays of same make may be provided only if they are of different hardware & manufacturing platform or different principle of operation.

However, Line Current Differential relay (with back up distance protection feature) as Main-I and Main-II shall be considered at both ends for short lines (line length below 30kM) having Fibre Optic communication link. Differential relay at remote end shall be provided by the TSP. Associated power & control cabling and integration with SAS at remote end shall be provided by respective bay owner.

In case of 220kV line bays where the line lengths are not indicated, Numerical Distance protection relay as Main-I and Line Current differential relay (with back up distance protection feature) as Main-II shall be provided. Further, in such case, the matching line current differential relay for remote end shall be provided by the remote end bay owner.

Further, all 765kV, 400kV and 220kV lines shall be provided with single and three phase auto-reclosing facility to allow reclosing of circuit breakers in case of transient faults. These lines shall also be provided with distance to fault locators to identify the location of fault on transmission lines.

All 765kV & 400kV lines shall also be provided with two stages over voltage protection. Over voltage protection & distance to fault locator may be provided as in-built feature of Main-I & Main-II protection relays. Auto reclose as built-in function of Bay Control Unit (BCU) is also acceptable.



The Main-I and Main-II protection relays shall be fed from separate DC sources and shall be mounted in separate panels.

For 765kV, 400kV and 220kV transmission lines, directional IDMT earth fault relay should be provided as standalone unit or in-built feature of Main-I and Main -II feature.

#### **b) Auto Transformer Protection**

These shall have the following protections:

- i) Numerical Differential protection
- ii) Numerical Restricted earth fault protection
- iii) Numerical Back-up Over-current and earth fault protection on HV & MV side
- iv) Numerical Over fluxing protection on HV & MV side
- v) Numerical Overload alarm

Further, Numerical Back-up Over-current and earth fault protection on HV & MV side of autotransformer shall not be combined with other protective functions in the main relays and shall be independent relays. Besides these, power transformers shall also be provided with Buchholz relay, Magnetic Oil Gauge (MOG) with low oil level alarm, protection against high oil and winding temperature and pressure relief device etc.

Suitable monitoring, control (operation of associated circuit breaker & isolator) and protection for LT auxiliary transformer connected to tertiary winding of auto-transformer for the purpose of auxiliary supply shall be provided. The Over current and other necessary protection shall be provided for the auxiliary transformer. These protection and control may be provided as built in feature either in the bay controller to be provided for the auxiliary system or in the control & protection IEDs to be provided for autotransformer.

#### **c) Reactor Protection**

Reactor shall be provided with the following protections:

- a. Numerical Differential protection.
- b. Numerical Restricted earth fault protection
- c. Numerical Back-up impedance protection

Besides these, reactors shall also be provided with Buchholz relay, MOG with low oil level alarm, protection against oil and winding temperatures & pressure relief device, etc.

#### **d) Bus bar Protection**

The high speed low impedance type 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 765kV, 400kV and 220kV buses. Duplicated bus bar protection is envisaged for 765kV & 400kV bus-bar protection. Bus bar protection scheme shall be such that it operates selectively for each bus and incorporate necessary features required for ensuring security. The scheme shall have complete bus bar protection for present as well as future bays envisaged i.e. input / output modules for future bays shall also be provided.

Bus Bar protection system for new substation shall be de-centralized (distributed) type.

In case, the bus section is provided, then each side of bus section shall have separate set of bus-bar protection schemes.

For existing substations, the existing bus bar protection shall be augmented as per requirement.

#### e) Local Breaker Back up Protection

This shall be provided for each 765kV, 400kV and 220kV circuit breakers and will be connected to de-energize the affected stuck breaker from both sides.

#### Notes:

1. *LBB & REF relays shall be provided separately from transformer differential relay.*
2. *LBB relay may also be provided as built-in protection function of distributed bus bar protection scheme; however, in such case separate LBB relay shall be provided for tie bays (in case of One and Half breaker scheme).*
3. *Over fluxing & overload protection can be provided as built-in feature of differential relay.*
4. *In 765kV & 400kV switchyard, if spare bay of half diameter is identified as future, Tie CB relay panel shall be with Auto-reclosure feature.*

### B.2.7 Substation Automation System

- a) For all the new substations, state of art Substation Automation System (SAS) conforming to IEC-61850 shall be provided. The distributed architecture shall be used for Substation Automation system, where the controls shall be provided through Bay control units. The Bay control unit is to be provided bay wise for voltage level 220 kV 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 circuit breaker, dis-connector, re-setting of relays etc. can be done from Human Machine Interface (HMI) from the control room.

The functions of control, annunciation, disturbance recording, event logging and measurement of electrical parameters shall be integrated in Substation Automation System.

At new substations, the Substation Automation System (SAS) shall be suitable for operation and monitoring of the complete substation including proposed future bays/elements.

In existing substations with Substation automation system (SAS), augmentation of existing SAS shall be done for bays under present scope.

In existing Substations where Substation automation is not provided, control functions shall be done through control panels.

Necessary gateway & modems (as required) shall be provided to send data to RLDC/SLDC as per their requirement. Any augmentation work at RLDC/SLDC is excluded from TSP's scope. However, all the configuration work at substation end required to send data to RLDC/SLDC shall be in the scope of TSP.

#### b) Time synchronization equipment

Time synchronization equipment complete in all respect including antenna, cable,



processing equipment required to receive time signal through GPS or from National Physical Laboratory (NPL) through INSAT shall be provided at new substations. This equipment shall be used to synchronize SAS & IEDs etc.

### **B.2.8 Phasor Measurement Units (PMUs)**

TSP shall supply, install & commission required no. of Phasor Measurement Units (PMUs) for all 400kV and above voltage line bays under the scope of work and PMUs shall support latest IEEE C-37.118 protocols. The supplied PMUs may be mounted in the C&R/SAS panels. These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room with Fibre Optic cable which shall further be interfaced with the FOTE. These PMUs shall be integrated with the existing PDC (Phasor Data Concentrator) located at respective RLDC. Configuration work in existing PDC at RLDC for new PMU integration is not in scope of TSP (shall be done by respective RLDC), however all the necessary co-ordination and support in this regard shall be ensured by TSP.

In case of bay extensions work, TSP shall also provide separate WAMS (PMU, switches, interface cabling and other associated accessories) required for extended bays at existing s/s.

### **B.3.0 Substation Support facilities**

Certain facilities required for operation & maintenance of substations as described below shall be provided at new substation. In existing substation, these facilities have already been provided and would be extended/ augmented as per requirement.

#### **B.3.1 AC & DC power supplies**

For catering the requirements of three phase & single phase AC supply and DC supply for various substation equipment (for present and future scope), the following arrangement is envisaged:-

- (i) For LT Supply at each new Substation, two (2) nos. of auxiliary Transformers (minimum 800kVA for substations with highest voltage rating as 765kV) shall be provided which shall be fed from two independent sources as per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007.

Metering arrangement with Special Energy Meters (SEMs) shall be provided by TSP at 33kV tertiary of Transformer for drawing auxiliary supply at new substation. Such SEMs shall be provided by CTU at the cost of the TSP. Accounting of such energy drawn by the TSP shall be done by RLDC/RPC as part of Regional Energy Accounting.

Additionally, Active Energy Meters may be provided at the same point in the 33kV tertiary of Transformer by local SEB/DISCOM for energy accounting.

- (ii) 2 sets of 220V battery banks for control & protection and 2 sets of 48V battery banks for PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall have a float-cum-boost charger.

At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS.

2 sets of 48 V battery banks for PLCC and communication equipment for present and future scope shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required. 48 V DC can be achieved from 220 V DC battery bank using adapter, if so desired by TSP, without compromising backup time.

- (iii) Suitable AC & DC distribution boards and associated LT Switchgear shall be provided at new substation.

For new substation, following switch boards shall be considered with duplicate supply with bus coupler/ sectionalizer and duplicate outgoing feeders except for Emergency lighting distribution board which shall have only one incoming feeder:

- (a) 415 V Main Switch board – 1 nos.
- (b) AC distribution board – 1 nos.
- (c) Main lighting distribution board – 1 no.
- (d) Emergency lighting distribution board – 1 no.
- (e) 220 Volt DC distribution board – 2 nos.
- (f) 48 Volt DC distribution board – 2 nos.

Sizing of LT Switchgear shall be suitable to cater the requirement for all present and future bays. AC & DC distribution boards shall have equipped modules for all the feeders (including future as specified).

- (iv) At new Substation, one no. of DG set (minimum 500kVA for substations with highest voltage rating as 765kV) shall be provided for emergency applications.
- (v) For substation extensions, existing facilities shall be augmented as required.

### **B.3.2 Fire Fighting System**

Fire-fighting system for substation including transformer & reactor shall conform to CEA (Measures Relating to Safety & Electric Supply) Regulations.

Further, adequate water hydrants and portable fire extinguishers shall be provided in the substations. The main header of firefighting system shall be suitable for extension to bays covered under the future scope; necessary piping interface in this regard shall be provided.

Optical Beam type heat detection for GIS hall fire protection system shall be provided for all the GIS halls.

At existing substations, the fire-fighting systems as available shall be extended to meet the additional requirements.

### **B.3.3 Oil evacuating, filtering, testing & filling apparatus**

To monitor the quality of oil for satisfactory performance of transformers, shunt reactors and for periodical maintenance necessary oil evacuating, filtering, testing and filling apparatus would be provided at new substations. Oil storage tanks of adequate capacities for storage of transformer oil would be provided.

### **B 3.4 Illumination**

Normal & emergency AC & DC illumination shall be provided adequately in the control room & other buildings of the substation. The switchyard shall also be provided with adequate illumination.

Lighting of the entire control room building, fire-fighting pump house, other building (if any) and switchyard shall be done by LED based low power consumption luminaires.

### **B.3.5 Control Room**

For new substation, substation control room shall be provided to house substation work stations for station level control (SAS) along with its peripheral and recording equipment, AC & DC distribution boards, DC batteries & associated battery chargers, Fire Protection panels, Telecommunication panels & other panels as per requirements. Air conditioning shall be provided in the building as functional requirements. Main cable trenches from the control room shall have adequate space provision for laying of cables from control room for all the future bays also.

At existing substations, the adequacy of size of control room shall be ascertained and the same shall be augmented as per requirement.

### **B.3.6 Control Concept**

All the EHV circuit breakers in substation/switching stations shall be controlled and synchronized from the switchyard control room/remote control center. All the isolators shall have control from remote/local whereas the earth switches shall have local control only.

### **B.3.7 Visual monitoring system (VMS) for watch and ward of substation premises:**

Visual monitoring system for effective watch and ward of substation premises shall cover all the transformers and reactors, all other major AIS Equipment (such as CB, isolators, CT, CVT, SA etc. as applicable), GIS bays, panel room, all the gates of switchyard and all entry and exit points of control room building and accordingly the location of cameras shall be decided. The camera shall be high definition color CCD camera with night vision feature. The VMS data partly/completely shall be recorded (minimum for 15 days) at least @25 fps (or better) and stored on network video recorder. The system shall use video signals from various cameras installed at different locations, process them for viewing on workstations/monitors in the control room and simultaneously record all the cameras.

Mouse/keyboard controllers shall be used for pan, tilt, zoom and other functions of the desired camera. The Visual Monitoring System shall have provision of WAN connectivity for remote monitoring.

All camera recordings shall have Camera ID & location/area of recording as well as date/time stamp. The equipment should generally conform to Electromagnetic compatibility requirement for outdoor equipment in EHV substation.

At existing substations, the visual monitoring system if available shall be augmented as per existing or better specification as required.

#### B.4.0 General Facilities

- a) Line Gantry/Towers are envisaged for bays under present scope only. However, for adjacent future line bay, tower shall be designed for extension (considering Quad conductors for 765kV & 400kV future lines and Twin conductor for 220 kV future lines) wherever applicable.
- b) Bay extension works at existing substation shall be executed by TSP in accordance with the requirement/provisions mentioned above. However, interface points shall be considered keeping in view the existing design/arrangement at the substation.
- c) TSP has to arrange for construction power and water on its own.
- d) All outdoor steel structures including anchor/foundation bolts shall be fully galvanized. The weight of the zinc coating shall be at least  $610 \text{ g/m}^2$ . however, for coastal/creek regions it shall be at least  $900 \text{ g/m}^2$ .
- e) In 765 kV & 400 kV switchyard, if spare bay of half diameter is identified as future, all the equipment for Tie & Future bay shall be designed considering the current rating of line bay i.e. 3150A.
- f) Boundary wall shall be brick masonry wall with RCC frame or Stone masonry wall or Precast RCC wall under present scope along the property line of complete substation area including future switchyard area to prevent encroachment and unauthorized access. Minimum height of the boundary wall shall be of 1.8 m from finished ground level (FGL)
- g) All electrical equipment shall be installed above Highest Flood Level and where such equipment is not possible to be installed above Highest Flood Level, it shall be ensured that there is no seepage or leakage or logging of water.

### **SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION**

The communication requirement shall be in accordance to CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020, CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 and CEA (Cyber Security in Power Sector) Guidelines, 2021, all above documents as amended from time to time.

The complete ISTS communication system commissioned by TSP under the RFP shall be the asset of ISTS and shall be available for usage of ISTS requirements as suggested by CTU from time to time.

The protections for transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele- protection in addition to one channel for speech plus data for each direction.

In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall provide the following:

#### **C.1.0 Establishment of 765/400/220 kV Ishanagar (New) along with 1x330 MVar, 765 kV & 1x125 MVar, 420 kV bus reactor.**

- (I) TSP shall supply, install & commission 1 no. FODP (96 F) & 1 no. FODP (72 F or higher) along with panels and Approach Cables (24F) with all associated hardware fittings from gantry towers to Control Room for all the incoming lines envisaged under the present scope.
- (II) TSP shall supply, install & commission One or more STM-16 (FOTE) equipment alongwith panel/s supporting minimum Seven (7) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Communication Equipment shall be provided with necessary interfaces to meet the voice and data communication requirement among Ishanagar (New) S/S, Jabalpur, Orai S/S and upcoming MPPTCL stations.s. The suitable DC Power Supply and backup to be provided for communication equipment.
- (III) FOTE & FODP equipment with panel shall be installed in the Control Room of Ishanagar (New) S/S. FOTE & FODP Equipment can be accommodated in the same panel to optimize space at Control Room.
- (IV) The new communication equipment and its NMS under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.
- (V) TSP shall supply, install & commission Firewall in redundant mode (1+1) in line with the specification attached at Appendix E.2.

- (VI) The maintenance of all the communication equipment including FOTE, FODP, approach cable, DCPS alongwith Battery Bank shall be the responsibility of TSP.

### C.2.0 LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)

On LILO of one ckt of Jabalpur – Orai 765 kV D/c line at Ishanagar (New) S/S, TSP to install OPGW and earthwire as per Tower Configurations:

- (i) For Multi Circuit Tower Configuration: Two (2) no. OPGW cable containing 24 Fibres (24F) each on both the Earthwire peaks to be supplied and installed by TSP.
- (ii) For Double Circuit Tower configuration: Two (2) no. OPGW cable containing 24 Fibres (24F) each on both the Earthwire peaks to be supplied and installed by TSP.

The TSP shall install OPGW cables from gantry of Ishanagar (New) S/S up to the LILO tower with all associated hardware including Vibration Dampers, LILO tower, mid-way & gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at Ishanagar (New) S/S. TSP to also provide suitable optical interfaces/equipment at Orai S/S and Jabalpur S/S to meet link budget requirement for connectivity with Ishanagar (New) S/S. The transmission line length of LILO portion is 5 kms (approx.), if after survey repeater/repeaters are required to meet the link budget requirement of Orai–Ishanagar (New) S/S & Jabalpur – Ishanagar (New) S/S link, the same shall be provided by TSP.

TSP shall finalize the location of repeater station depending upon the actual site conditions. Further, TSP shall comply to the requirements mentioned as per **Appendix-E.1**.

Maintenance of OPGW Cable, OPGW Hardware & repeater equipment & items associated with repeater shelter shall be responsibility of TSP.

**Note:** Existing Station owner/s to provide necessary support to integrate different equipment & applications of new extended bays with the existing substation e.g. Communication (through FOTE), Voice etc. for smooth operation and monitoring of new added grid elements.

### C.3.0 PLCC & PABX:

Power line carrier communication (PLCC) equipment complete for speech, tele-protection commands and data channels shall be provided on each transmission line. The PLCC equipment shall in brief include the following:

- Coupling device, line traps, carrier terminals, protection couplers, HF cables, PABX (if applicable) and maintenance and testing instruments.
- At new substation, a telephone exchange (PABX) of 24 lines shall be provided at as means of effective communication among various buildings of the substation, remote end substations and with control centres (RLDC/SLDC) etc.
- Coupling devices shall be suitable for phase to phase coupling for 400kV Transmission lines. The pass band of coupling devices shall have sufficient margin for adding communication channel in future if required. Necessary protection devices for safety of

personnel and low voltage part against power frequency voltages and transient over voltage shall also be provided.

- The line traps shall be broad band tuned suitable for blocking the complete range of carrier frequencies. Line Trap shall have necessary protective devices such as lightning arresters for the protection of tuning device. Decoupling network consisting of line traps and coupling capacitors may also be required at certain substation in case of extreme frequency congestion.
- The carrier terminals shall be of single side-band (SSB) amplitude modulation (AM) type and shall have 4 kHz band width. PLCC Carrier terminals and Protection couplers shall be considered for both ends of the line.
- PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, CVT & Wave trap for all 765kV, 400kV & 220kV line bays under present scope shall be provided by TSP.
- TSP shall provide/ undertake necessary addition/ modification/ shifting/ re-commissioning etc. of PLCC equipment due to LILO of transmission lines (wherever applicable) as mentioned below:

Sl. No	Line name	PLCC configuration
1	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	1 set Analog PLCC + 1 set Digital Protection Coupler at each end after LILO. Existing PLCC panels can also be utilized.

- All other associated equipment like cabling, coupling device and HF cable shall also be provided by the TSP.
- 2 sets of 48V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10 hours battery backup and extended backup, if required.

## Proposed Communication for WRES-XXXIII Part C

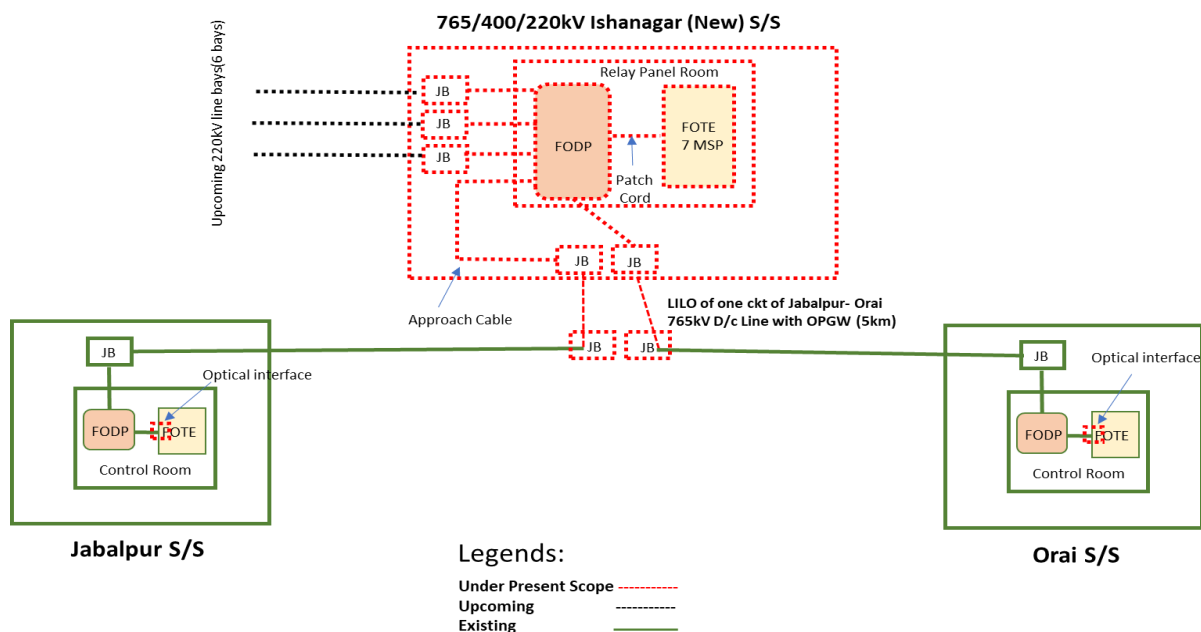


Figure E.1



## Repeater Requirements

- If the repeater location is finalized in the Control Room of a nearby substation, TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the repeater equipment in substation control room.  
TSP shall co-ordinate for Space & DC power supply sharing for repeater equipment.  
TSP shall provide FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link.

OR

- If the repeater location is finalized in the nearby substation premises, the TSP shall identify the Space for repeater shelter in consultation with station owner. Further TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the substation where the repeater shelter is to be housed.  
TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems.

OR

- If the repeater location is finalized on land near the transmission tower. TSP shall make the provisions for Land at nearby tower for repeater shelter. Further TSP shall provide 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings to establish connectivity up to the location of repeater shelter.  
TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems

Maintenance of OPGW Cable and **OPGW Hardware**, repeater equipment & items associated with repeater shelter shall be responsibility of TSP.

## Appendix E.2

## Next Generation Firewall (NGFW)

TSP shall provide 2 NGFW one in Main & another in Standby mode having electrical ethernet interfaces/ports and placed between FOTE & SAS gateway/s at the substation. All ethernet based applications shall be terminated in the firewall ports directly (e.g. PMU, AMR, VOIP, SAS/SCADA etc.). Each port of firewall shall work as a separate zone. Firewall shall be hardware based with features of Block/Allow/drop and IPSec VPN (network encryption).

The number of ports/interfaces in each firewall (i.e. Main & Standby) shall be minimum 16 nos. TSP shall provide either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps.

The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/configure through Centralized Management Console (CMC) remotely in future.

Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance.

The specifications for the firewalls are given at **Appendix-E.3** and schematic diagram showing firewall placement given at **Figure E.2**.

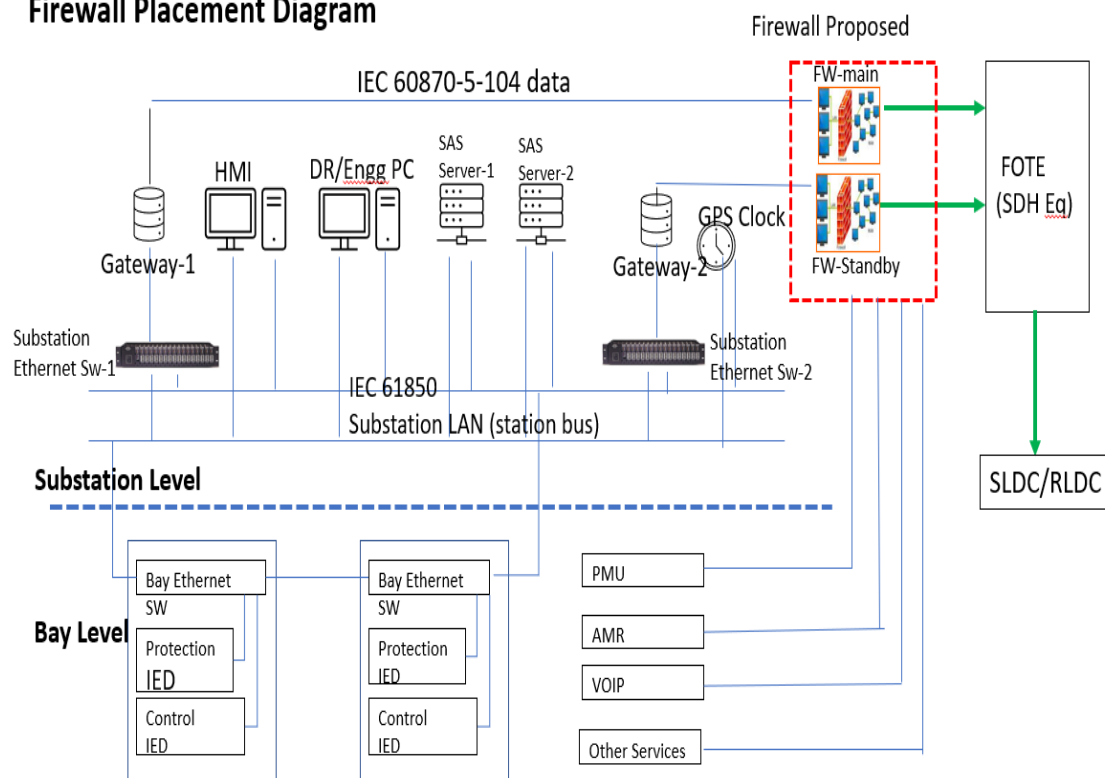
## Appendix E.3

### Specifications of Next Generation Firewall (NGFW)

1. NGFW shall have following features including but not limited to:  
Encryption through IPsec VPN (Virtual Private Network), Deep Packet Inspection (DPI), Denial of service (DoS) & Distributed Denial of Service (DDoS) prevention, Port Block/ Allow, rules/ policies for block/allow, IP (Internet Protocol) & Media Access Control (MAC) spoofing protection, threat detection, Intrusion Prevention System (IPS), Anti-Virus, Anti-Spyware, Man In The Middle (MITM) attack prevention.
2. The proposed firewall shall be able to handle (alert, block or allow) unknown /unidentified applications e.g. unknown TCP & UDP packets. It shall have the provision to define application control list based on application group and/or list.
3. Firewall shall have feature and also have capability to update the definition/ Signatures of Anti-Virus online as well as offline. Firewall shall also be compatible to update the definitions/signatures through CMC. There shall be a defined process for security patching and firmware up-gradation. There shall be a feature to field validate firmware checksum. The same shall also be validated before using the OEM provided file/binary in the process of firmware up-gradation and security patching
4. Firewall shall have Management Console port to configure remotely.
5. Firewall shall be EMI/EMC compliant in Substation environment as per IEC 61850-3.
6. Firewall shall be rack mounted in existing standard equipment cabinets.
7. Firewall shall have support of SCADA applications (IEC-60870-5-104), IEC, PMU (IEEE C37.118), Sub-Station Automation System (IEC 61850), Ethernet and other substation environment protocols.
8. Client based Encryption/ VPN must support different Operating System platforms e.g. Windows, Linux & Mac.
9. The solution must have content and comprehensive file detection policies, blocking the files as function of their types, protocols and directions.
10. Firewall shall have logging facility as per standard logs/events format. Firewall shall have features to export the generated/stored logs/events in csv (Comma Separated Value) and also any other standard formats for offline usage, analysis and compliance. Firewall shall have suitable memory architecture and solution to store and be enable to export all logs/events for a period of last 90 days at any given time.
11. Firewall shall have features and be compatible with local as well as central authentication system (RADIUS, LDAP, or TACACS+) for user account and access right management. It shall also have Role Based User management feature.
12. Firewall shall have the capability to configure sufficient number of VLANs.
13. Firewall shall have the capability to support sufficient number of sessions.
14. Firewall shall have provision to configure multiple IP Sec VPNs, at least 100 nos., (one-to-many or many-to-one). Shall support redundant operation with a similar router after creation of

all the IP Sec VPN. IPSec VPN shall support encryption protocols as AES128, AES256 and hashing algorithms as MD5 and SHA1. IPSec VPN throughput shall support at least 300 Mbps

15. Firewall shall be capable of SNMP v3 for monitoring from Network Management system. It shall also have SNMPv3 encrypted authentication and access security
16. Firewall shall support in Active/Passive or Active-Active mode with High Availability features like load balancing, failover for firewall and IPsec VPN without losing the session connectivity.
17. Firewall should have integrated traffic shaping (bandwidth, allocation, prioritisation, etc.) functionality
18. Shall support simultaneous operation with both IPv4 and IPv6 traffic
19. Firewall shall be compatible with SNTP/NTP or any other standards for clock synchronization
20. Firewall shall have the features of port as well as MAC based security
21. Firewall shall support exporting of logs to a centralized log management system (e.g. syslog) for security event and information management.
22. Firewall time shall be kept synchronised to official Indian Timekeeping agency, [time.nplindia.org](http://time.nplindia.org).
23. Firewall product shall be provided with all applicable updates at least until 36 months since the applicable date of product shipping to the concerned utility.

**Figure E.2****Firewall Placement Diagram****Frequently Asked Queries:****1.0 Transmission Line:**

1.1 Please clarify that whether shutdowns for crossing of existing transmission lines of POWERGRID/STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP on chargeable basis or free of cost.

**Reply:** Shutdowns for crossing of existing transmission lines of POWERGRID/ STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP by the concerned owner of the lines as per their own terms & conditions. As far as shutdown of ISTS lines are concerned the same can be availed by approaching respective Regional Power Committee.

1.2 We understand that the suggested swing angle criteria are applicable for Suspension Insulator in Suspension Tower. Further, you are requested to provide similar swing angle and clearance criteria for Pilot Insulator with Jumper & Jumper.

**Reply:** It is clarified that the swing angle criteria (as mentioned in RFP) for transmission lines is applicable for Suspension Insulator in Suspension Tower. Further, as per Clause 3.0 of Specific Technical Requirements for transmission lines, Transmission service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and

/or deemed necessary

- 1.3 We request you to kindly allow that use of diamond configuration at Power line crossings and the existing owner of the lines may be directed to allow the same for the successful bidders.

**Reply:** Power line crossing including Diamond configuration is responsibility of the TSP. TSP shall formally submit the profile of the crossing section to the owner of the existing line suggesting proposed crossing alternatives. The crossing will have to be carried out as per approval of owner of the existing line.

- 1.4 It is requested you to kindly provide present status of Forest Clearances if any transmission line corridor area falling in wildlife forest / reserve forest/ mangroves.

**Reply:** Based on the preliminary route survey, the process of initiation of forest clearance for the forest stretches, if any, enroute the proposed line alignment will be initiated by way of writing letters to the concerned authority (ies). However, it may be noted that it will be the responsibility of TSP for obtaining forest clearance for the forest stretches as provided in the survey report and also for any forest area encountered during detailed survey.

## 2.0 Substation

- 2.1 We understand that space for storage of O&M spare shall be provided by existing owner within the station boundary without any cost. Kindly confirm.

**Reply:** Space for storage of O&M spares shall be arranged by TSP on its own.

- 2.2 We presume that the O&M for the end Termination bays will be in the scope of the TSP and TSP shall not be liable for any payment towards O&M to the existing owner of the substation. Kindly confirm.

**Reply:** Operation and maintenance of the bays is solely responsibility of the TSP.

- 2.3 With reference to subject scheme of existing sub-station, we assumed following scope of work:

- (a) We assumed internal road is available and need not to consider in the presentscope of work.
- (b) Drainage is available and need not to consider in the present scope of work.
- (c) Cable trench extension in adjacent to Main cable trench only under presentscope of work.
- (d) Levelled area being provided by developer for bay extension.

**Reply:** Regarding requirement of internal road, drainage, cable trench, leveling of the bay extension area, bidder is advised to visit site and acquaint themselves with the provisions/facilities available at substation.

- 2.4 Kindly provide the soil investigation report of soil parameters of existing substation.

**Reply:** Bidder is advised to visit the substation site and ascertain the requisite parameters.

- 2.5 Kindly confirm, energy accounting of aux. power consumption. Whether it will be on chargeable basis or part of transmission loss.

**Reply:** It will be on chargeable basis.

- 2.6 We understand that VMS requirement is for unmanned stations only. For Manned stations VMS is not compulsory.

**Reply:** VMS shall be provided in line with requirements of RfP document.

- 2.7 It is understood that Construction water and power shall be provided free of cost to TSP by respective substation owner for construction of new bays.

**Reply:** Arrangement of construction power & water is in the scope of TSP.

- 2.8 It is understood that existing fire hydrant system shall be extended by the TSP for bay extension.

**Reply:** Existing fire hydrant system shall be extended from existing system (if required).

- 2.9 Please clarify that Status of land acquisition for Substations. Whether the lands have been acquired by BPC and will be transferred to TSP.

**Reply:** The acquisition of land for substation is in the scope of TSP.

- 2.10 We understood that no any dedicated metering CT & CVT required for Line/feeders. Further, we understood that requisite Energy meters for various 765kV, 400kV & 220kV Feeders shall be provided & installed by CTU free of cost to TSP.

**Reply:** Dedicated metering CT and CVT are not required for line/feeders. Metering core of existing CT/CVT can be used provided accuracy class is matching with metering requirement. Requisite Special Energy Meters shall be provided and installed by CTU at the cost of TSP in C&P panel subject to space availability, else, in separate metering panel (to be provided by TSP at its cost).

- 2.11 It is understood that TSP to follow the RFP for Technical Requirement. Only interface drawings like CRP & SCADA shall be coordinated with existing S/S owner.

**Reply:** All necessary coordination shall be done with exiting s/s owner w.r.t interface along with augmentation required as per RfP.

- 2.12 We understand that there are only two communication channels, Chanel-1 for protection-1+ Speech via. PLCC, Chanel-2 for Protection-2 + data via. FOTE. Hence, we do not envisage any separate channel for speech + data as the same can be achieved with FOTE system. Therefore, we understand that TSP is allowed to implement best possible solutions accordingly. Kindly confirm

**Reply:** PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.



2.13 We understand that one set of analog circuit protection coupler shall be for PLCC and another set for Digital protection coupler for FOTE. Kindly confirm.

**Reply:** PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.

### 3.0 Communication

3.1 What are the usages of OPGW, FOTE, PMU etc. under communication requirement of RFP?

**Reply:** User shall be responsible for providing compatible equipment along with appropriate interface for uninterrupted communication with the concerned control center and shall be responsible for successful integration with the communication system provided by CTU. Communication systems e.g. OPGW, FOTE, PMU etc. are required for grid operation through RLDC/SLDC, speech communication, tele-protection and tele-metering.

3.2 Is space for installation of communication panels are provided to TSP in existing Substations incase new bays are in the scope of TSP?

**Reply:** The space replated issues are deliberated in the RFP itself. TSP to carry out survey of the existing substation for physical space requirement. In case space is not available in the existing substation then TSP shall accommodate the same in the respective bay SPR (Switchyard Panel Room)/Bay Kiosk/ Relay panel room in case of GIS s/s. Further, TSP to connect and integrate the proposed FOTE with the existing FOTE in the control room. In Case 132kV Substation TSP shall accommodate the said panels either by extension of existing control room or other arrangements.

3.3 How is the OPGW laying done in case of LILO lines?

**Reply:** In case LILO lines are on same towers (e.g. both Line in and Line Out portion are on same towers, generally done LILO of S/C lines). Then 2x24F OPGW shall be required to install by TSP on both earthwire peak on 400kV & 765kV lines where two E/W peaks are available. On 220 & 132kV lines where only one E/W peak is available TSP to install one no. 48F OPGW. In case LILO lines are on different towers (e.g. both Line In and Line Out portion are on different towers, generally done LILO of D/C lines). Then 1x24F OPGW shall be required to install by TSP on one earthwire peak, on both Line In and Line Out portions of 400kV & 765kV lines. On 220 & 132kV lines where only one E/W peak is available TSP to install one no. 24F OPGW in place of conventional earthwire.

3.4 How is the OPGW laying done in case Multi circuit Towers?

**Reply:** In case two different lines are using common multi circuit portion for some distance (originating from different stations, may be terminating on same or on different stations). Two no. 24F OPGW to be installed on both E/W peaks for common M/C portion of 765kV & 400kV lines. In case 220/132kV lines using multi circuit portion where single E/W peak is available one no. 48F may be installed for common multi circuit portion.



**Amendment –I dated 24.07.2023 on the Request for Proposal Document and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

Sl. No	Clause No.	Existing Provisions	New / Revised Clause																																								
1.	2.7.1 of RFP	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e., on or before 1400 hours (IST) on <b>24.07.2023</b> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e. on or before 1400 hours (IST) on <b>24.08.2023</b> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol																																								
2.	2.7.2 of RFP	Important timelines are mentioned below: <table><tr><th>Date</th><th>Event</th></tr><tr><td><b>30.06.2023</b></td><td>Issue of written clarifications and revised RFP documents</td></tr><tr><td><b>10.07.2023</b></td><td>Issue of final RFP Project Documents</td></tr><tr><td><b>24.07.2023</b></td><td>Submission of Bid (Online submission of Bid through electronic bidding portal)</td></tr><tr><td><b>24.07.2023</b></td><td>Opening of Technical Bid</td></tr><tr><td><b>01.08.2023</b></td><td>Shortlisting and announcement of Qualified Bidders on bidding portal</td></tr><tr><td><b>02.08.2023</b></td><td>Opening of Financial Bid - Initial Offer</td></tr><tr><td><b>03.08.2023</b></td><td>Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.</td></tr><tr><td><b>08.08.2023</b></td><td>Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer</td></tr><tr><td><b>11.08.2023</b></td><td>Selection of Successful Bidder and issue of LOI</td></tr></table>	Date	Event	<b>30.06.2023</b>	Issue of written clarifications and revised RFP documents	<b>10.07.2023</b>	Issue of final RFP Project Documents	<b>24.07.2023</b>	Submission of Bid (Online submission of Bid through electronic bidding portal)	<b>24.07.2023</b>	Opening of Technical Bid	<b>01.08.2023</b>	Shortlisting and announcement of Qualified Bidders on bidding portal	<b>02.08.2023</b>	Opening of Financial Bid - Initial Offer	<b>03.08.2023</b>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	<b>08.08.2023</b>	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer	<b>11.08.2023</b>	Selection of Successful Bidder and issue of LOI	Important timelines are mentioned below: <table><tr><th>Date</th><th>Event</th></tr><tr><td><b>28.07.2023</b></td><td>Issue of written clarifications and revised RFP documents</td></tr><tr><td><b>09.08.2023</b></td><td>Issue of final RFP Project Documents</td></tr><tr><td><b>24.08.2023</b></td><td>Submission of Bid (Online submission of Bid through electronic bidding portal)</td></tr><tr><td><b>24.08.2023</b></td><td>Opening of Technical Bid</td></tr><tr><td><b>01.09.2023</b></td><td>Shortlisting and announcement of Qualified Bidders on bidding portal</td></tr><tr><td><b>04.09.2023</b></td><td>Opening of Financial Bid - Initial Offer</td></tr><tr><td><b>05.09.2023</b></td><td>Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.</td></tr><tr><td><b>08.09.2023</b></td><td>Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer</td></tr><tr><td><b>13.09.2023</b></td><td>Selection of Successful Bidder and issue of LOI</td></tr></table>	Date	Event	<b>28.07.2023</b>	Issue of written clarifications and revised RFP documents	<b>09.08.2023</b>	Issue of final RFP Project Documents	<b>24.08.2023</b>	Submission of Bid (Online submission of Bid through electronic bidding portal)	<b>24.08.2023</b>	Opening of Technical Bid	<b>01.09.2023</b>	Shortlisting and announcement of Qualified Bidders on bidding portal	<b>04.09.2023</b>	Opening of Financial Bid - Initial Offer	<b>05.09.2023</b>	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	<b>08.09.2023</b>	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer	<b>13.09.2023</b>	Selection of Successful Bidder and issue of LOI
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Sl. No.	Clause No.	Existing Provisions	New / Revised Clause
		<b>21.08.2023</b> Signing of RFP Project Documents and transfer of [Insert name of the SPV]	<b>25.09.2023</b> Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>
3.	2.13.1 of RFP	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b>24.07.2023</b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b>02.08.2023</b> in the office of CEA.</p>	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b>24.08.2023</b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b>04.09.2023</b> in the office of CEA.</p>
4	RFP & TSA	Name of the Project Specific SPV	Name of the Project Specific SPV All the reference to the name of the SPV may be read as " <b>Ishanagar Power Transmission Limited</b> ".
5	Para 1.6.1.1 of RFP	Establishment, operation and maintenance of the Project on build, own, operate and transfer basis and completion of all the activities for the Project, including survey, detailed project report formulation, arranging finance, project management, necessary Consents, Clearances and Permits (way leave, environment & forest, civil aviation, railway/ road/ river/ canal/ power crossing/ PTCC, etc.), land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning. <b><u>Further, the actual location of substations, switching stations or HVDC terminal or inverter stations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report.</u></b>	Establishment, operation and maintenance of the Project on build, own, operate and transfer basis and completion of all the activities for the Project, including survey, detailed project report formulation, arranging finance, project management, necessary Consents, Clearances and Permits (way leave, environment & forest, civil aviation, railway/ road/ river/ canal/ power crossing/ PTCC etc.). land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning. <b><u>Further, the actual location of Greenfield substations (Switching Stations or HVDC Terminal or Inverter Stations) for a generation pooling substation and for load serving substations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the</u></b>

		.....	<b><u>survey report. However, actual location of any Greenfield Intermediate Substations in the scope of TSP shall not be beyond 10 Km radius of the location proposed by the BPC in the Survey Report.</u></b>
6	Para 5.1.4 (a) of TSA	<p>The TSP shall be responsible for</p> <p>(a) [To be deleted by the BPC in case no land acquisition is involved in the Project and replaced by "deleted"] acquisition of land for location specific substations, switching stations or HVDC terminal or inverter stations. Also, <b><u>the actual location of substations, switching stations or HVDC terminal or inverter stations shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report;</u></b></p> <p>.....</p>	<p>The TSP shall be responsible for</p> <p>(a) [To be deleted by the BPC in case no land acquisition is involved in the Project and replaced by "deleted"] acquisition of land for location specific substations, switching stations or HVDC terminal or inverter stations. Also, <b><u>the actual location of Greenfield substations (Switching Stations or HVDC Terminal or Inverter Stations) for a generation pooling substation and for load serving substations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report. However, actual location of any Greenfield Intermediate Substations in the scope of TSP shall not be beyond 10 Km radius of the location proposed by the BPC in the Survey Report.</u></b></p> <p>.....</p>

**Amendment –II dated 23.08.2023 on the Request for Proposal Document and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

Sl. No	Clause No.	Existing Provisions	New / Revised Clause																																								
1.	2.7.1 of RFP	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e., on or before 1400 hours (IST) on <b>24.08.2023</b> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e. on or before 1400 hours (IST) on <b>25.09.2023</b> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol																																								
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		<b>25.09.2023</b>	Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>	<b>23.10.2023</b>	Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>
3.	2.13.1 of RFP	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b><u>24.08.2023</u></b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b><u>04.09.2023</u></b> in the office of CEA.</p>		<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b><u>25.09.2023</u></b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b><u>04.10.2023</u></b> in the office of CEA.</p>	

**Amendment –III dated 25.09.2023 on the Request for Proposal Document and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

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3.	2.13.1 of RFP	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b><u>25.09.2023</u></b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b><u>04.10.2023</u></b> in the office of CEA.</p>		<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b><u>25.10.2023</u></b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b><u>06.11.2023</u></b> in the office of CEA.</p>	

**Amendment-IV (dated: 27.09.2023) to RFP Documents for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process.**

Sl. No.	Clause No.	Existing Clause	New/Revised Clause
1	RFP Specific Technical Requirements for Substation Clause No. B.1.2	<p><b>B.1.2 Switching Scheme</b></p> <p><b>Notes: -</b></p> <p>v) <i>Bus sectionalizer:</i></p> <p>.....</p> <p><i>One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses <b>and isolator for Transfer bus.</b></i></p>	<p><b>B.1.2 Switching Scheme</b></p> <p><b>Notes: -</b></p> <p>v) <i>Bus sectionalizer:</i></p> <p>.....</p> <p><i>One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.</i></p>
2	RFP Specific Technical Requirements for Substation Clause No. B.2.3.1	<p><b>B.2.3 400kV&amp;220kV AIS Substation equipment (as applicable)</b></p> <p><b>B.2.3.1 Circuit Breakers (AIS)</b></p> <p>.....</p> <p>The controlled switching device shall be provided in 400kV Circuit breaker of switchable line reactor and in Main &amp; Tie circuit breakers of line with non-switchable line reactors and Bus reactors.</p>	<p><b>B.2.3 400kV&amp;220kV AIS Substation equipment (as applicable)</b></p> <p><b>B.2.3.1 Circuit Breakers (AIS)</b></p> <p>.....</p> <p>The controlled switching device shall be provided in 400kV Circuit breaker of switchable line reactor and in Main &amp; Tie circuit breakers of line with non-switchable line reactors and Bus reactors and <b><u>Transformers of 400kV &amp; above voltage class.</u></b></p>



**Amendment –V dated 25.10.2023 on the Request for Proposal Document and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

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		<b>28.11.2023</b>	Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>	<b>14.12.2023</b>	Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>
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**Amendment –VI dated 13.11.2023 on the Request for Proposal Document and Transmission Service Agreement issued for selection of bidder as Transmission Service Provider to establish “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process**

Sl. No	Clause No.	Existing Provisions	New / Revised Clause																																
1.	2.7.1 of RFP	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e., on or before 1400 hours (IST) on <b>15.11.2023</b> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol	The Bidders should submit the Bids online through the electronic bidding platform before the Bid Deadline i.e., on or before 1400 hours (IST) on <b>28.11.2023</b> . In addition to the online submission, the Bidder with lowest Final Offer will be required to submit original hard copies of Annexure 3, Annexure 4 (if applicable), Annexure 6 (if applicable) and Annexure 14 before issuance of Lol																																
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Sl. No.	Clause No.	Existing Provisions		New / Revised Clause	
		<b>14.12.2023</b>	Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>	<b>28.12.2023</b>	Signing of RFP Project Documents and transfer of <b>Ishanagar Power Transmission Limited</b>
3.	2.13.1 of RFP	<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b><u>15.11.2023</u></b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b><u>24.11.2023</u></b> in the office of CEA.</p>		<p>.....</p> <p>Opening of Envelope (Technical Bid): 1430 hours (IST) on <b><u>28.11.2023</u></b></p> <p>.....</p> <p>Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1430 hours (IST) on <b><u>07.12.2023</u></b> in the office of CEA.</p>	

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**Annexure P-7 (Colly)**

Sl No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1.	RFP	“Final Offer” shall mean the Quoted Transmission Charges, required to be submitted as part of the Financial Bid on the electronic bidding platform during the e-reverse bidding stage. In case, no Final Offer is received during the e-reverse bidding stage then the lowest “Initial Offer” shall be deemed to be the Final Offer;	<p>Presently, details of L-1 bidder are not displayed on conclusion of e-RA if there is no receipt of counterbids.</p> <p>In case, two bidders have quoted the same L1, they would be under false impression of having L1 tariff of their own and may not offer further competitive offer. In such scenario, e-RA shall end resulting in premature conclusion of e-RA process. It is requested to update the e-RA platform accordingly to reflect the status of L1 bidder under the above scenario.</p>		For transparency of the competitive price discovery through e-RA	<p>As per provisions of RFP, bidders have to quote transmission charges upto 2 decimal points. Therefore, it is practically not possible to have same Initial Offer from two or more bidders.</p> <p>However, if such situation arises, appropriate decision will be taken by the competent authority.</p>

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2.	<b>RFP document and TSA</b>	<p><b>Provisions of RFP</b></p> <p>Clause 1.5</p> <p>....The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to STU or its successors or an agency as decided by the State Government after 35 years from COD of project at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days after 35 years from COD of project failing which STU shall be entitled to take over the project assets Suo moto.</p>	<p>Query-1</p> <p>Treatment of tax application at the end of the life of assets.</p> <p>As per section 50C of Income tax act, in case sale consideration received or claimed to be received by seller on sale of land or building or both is less than value adopted by stamp valuation authority (SVA), such value adopted by SVA would become actual sale consideration received or accruing to the seller. Therefore, capital gain would be Valuation as per stamp valuation authority reduced by cost/indexed cost of acquisition.</p> <p>Treatment of Capital tax and applicable TDS to be clarified.</p> <p>Query-2</p> <p>Modality of transfer of assets to be defined.</p> <p>In case only assets to be transferred then application of stamp duty &amp; other taxes and its treatment to be clarified.</p>			<p>1. The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to CTUIL or its successors or an agency as decided by the Central Government after 35 years from COD of project at zero cost and free from any encumbrance and liability.</p> <p>Any taxes, stamp duties and liabilities, as may be applicable, has to be borne by the TSP.</p> <p>2, 3, 5 &amp; 6: The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to CTUIL or its successors or an agency as decided by the Central Government after 35 years from COD of project at zero cost and free from any encumbrance and liability.</p>
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		<p><b>Provisions of TSA</b></p> <p>Definitions:</p> <p>“Project Assets” shall mean all physical and other assets relating to and forming part of the Project including:</p> <p>(a) rights over the Site for substations, ROW for transmission lines;</p> <p>(b) tangible &amp; intangible assets such as civil works and equipment including foundations, embankments, pavements, electrical systems, communication systems, relief</p>	<p>Query-3</p> <p>Modalities for O&amp;M, other expenditure etc. for the transition period of 90 days may be confirmed.</p> <p>Availability calculation for the said period?</p> <p>Query-4</p> <p>There could be delay in receipt of payment against receivables. Further, the TSP might have some pending claims against insurance company.</p> <p>How shall TSP receive these legitimate pending claim or charges after transfer of asset to STU?</p>			<p>Any taxes, stamp duties and liabilities, as may be applicable have to be borne by the TSP.</p> <p>4. Definition of Project Assets is amply clear in this regard.</p>
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		<p>centres, administrative offices, Substations, software, tower and sub-stations designs etc;  (c) project facilities situated on the Site;  (d) all rights of the TSP under the project agreements;  <b>(e) financial assets, such as receivables, security deposits etc;</b>  <b>(f) insurance proceeds; and</b>  (g) Applicable Permits and authorisations relating to or in respect of the Transmission System;”</p> <p><b>2.2.2</b> Post the Expiry Date of this Agreement, the TSP shall ensure transfer of Project Assets to STU or its successors or an agency as decided by the State Government at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days of expiry of this Agreement failing which STU shall be entitled to take over the Project Assets Suo moto</p>	<p>Query-5</p> <p>Please confirm that any taxes or charges or cost to be borne by the TSP at the transfer time including sale at value lower than fair value shall be reimbursed to the TSP.</p> <p>These costs are not known at this point of time and might be significant in amount. TSP cannot be exposed such charges.</p> <p>Query-6</p> <p>Modalities for O&amp;M, other expenditure etc. for the transition period of 90 days may be confirmed.</p>			
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3.	RFP	Clause 2.7.2	<p>The important timelines are mentioned in the table including shortlisting and announcement of Qualified bidder, proposed date of issuance of LoI, transfer of SPV etc.</p> <p>It is observed in the past that in case, there is extension in bid submission date, the revised timelines are not being provided regarding issuance of LoI, transfer of SPV etc.</p> <p>Further, in case of delay in shortlisting of qualified bidders, it is requested to provide the updated dates of financial bid opening and date of conduction of e-RA etc., at least 1 week prior to financial bid opening, to enable bidders to take appropriate action for participation in e-RA</p> <p>It is requested to kindly provide the updated table in case of extension in bid submission date/ delay in shortlisting of qualified bidders.</p>		For clarity and to comply with SBD requirement	The qualification status is being informed to the bidders invariably. Further, all relevant dates are informed to the bidders, as per provisions of RFP.
4.	<b>RFP</b>	2.15.3 After the date of acquisition of the equity shareholding of SPV [which is under incorporation], along with	Role of BPC has to be complete.	i. the authority of the BPC in respect of this Bid Process shall forthwith cease and any actions to be	The BPC shall not relinquish its role after the acquisition but shall have to	The role of BPC is as per the SBD and hence no change envisaged.

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		all its related assets and liabilities, by the Selected Bidder, i. the authority of the BPC in respect of this Bid Process shall forthwith cease and any actions to be taken thereafter will be undertaken by the Nodal Agency,		taken thereafter will be undertaken by the Nodal Agency, save for those which are related to and consequent to the bidding process adopted by the BPC	undertake all activities including providing the certification from the Bid Evaluation Committee etc., and other requirements to enable the Bidder to obtain Transmission license and adoption of Transmission charges. Furthermore, any activity which has an origin traced to the BPC activity/process has to be owned by BPC and the TSP / LTTC is neither aware nor can be made responsible.	However, it may be noted that the BPC shall fulfil its responsibility of providing the certification from the Bid Evaluation Committee to enable the TSP to obtain Transmission license and adoption of Transmission charges.  The details of the contractual obligations (if any) of BPC to be fulfilled by the TSP shall be provided to the bidders along with the tentative Acquisition price of SPV.
5.	<b>RFP</b>	2.15.3 iv. contractual obligations undertaken by the BPC shall continue to be fulfilled by the TSP.	What are the obligations that the BPC has undertaken which needs to be fulfilled by the TSP?	2.15.3 iv. Contractual obligations undertaken by the BPC shall continue to be fulfilled by the TSP if only such contractual obligations have been	Nature of contractual obligations cannot be left open as the same is to be fulfilled by the TSP.	The details of the contractual obligations (if any) of BPC to be fulfilled by the TSP shall be provided to the bidders along with the tentative Acquisition price of SPV.

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				made available to the bidders 15 days prior to the bid deadline.		
6.	<b>RFP &amp; TSA</b>	<p><b>Provision of RFP</b></p> <p>2.15.4 Within five (5) working days of the issue of the acquisition of the SPV by the Successful Bidder, the TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section – 63 of The Electricity Act 2003</p> <p>Provision of TSA</p> <p>3.1.1.....The TSP shall, within five (5) working days from the date of acquisition of SPV by the Selected Bidder, undertake to apply to the Commission for the grant of Transmission License and for the adoption of tariff as required under section-63 of the Electricity Act</p> <p>.....</p>	<p>Query-1</p> <p>We request you to consider at least 30 days’ time for completion of these activities.</p> <p>Query-2</p> <p>Definition of working day is not defined in the TSA. Therefore, it is requested to define working day to avoid ambiguity and litigation later on</p>	<p>Within thirty (30) working days of the issue of the acquisition of the SPV by the Successful Bidder, the TSP shall apply to the Commission for grant of Transmission License and make an application to the Commission for the adoption of Transmission Charges, as required under Section – 63 of The Electricity Act 2003</p>		<p>1. This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.</p> <p>2. For this purpose, working day shall mean a day on which the office of the Central Commission i.e., CERC is functioning.</p>
7.	<b>RFP</b>	2.15.6 If the TSP fails to obtain the Transmission License from the Commission, it will constitute sufficient grounds for-annulment of award of the Project	In case TSP fails to obtain the Transmission License the reasons for the same have to be examined.	2.15.6 If the TSP fails to obtain the Transmission License from the Appropriate Commission, the	Provisions of 3.3 of TSA provides for consequences for non-fulfilment of conditions	This is as per the SBD and amendments thereof, issued by the Ministry of Power and

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				treatment shall be as per provisions 3.3 of the TSA.	subsequent. The provisions of RFP as such have to be reflective of TSA.	hence, no change is envisaged.
8.	<b>RFP and TSA</b>	<p><b>The definition of Contract Year in RFP is as under:</b></p> <p>"Contract Year" shall mean the period beginning on the <b>Scheduled COD</b>, and ending on the immediately succeeding March 31 and thereafter each period of 12 ...</p> <p>And the definition of Contract Year in TSA is as under:</p> <p>“Contract Year”, for the purpose of payment of Transmission Charges, shall mean the period beginning on the COD, and ending on the immediately ...”</p>	<p>As per RFP, the Contract Year shall start from the Scheduled CoD whereas as per TSA, the Contract Year shall start the CoD. As such, both the definitions are contradictory in nature.</p> <p>It is requested to clarify the correct definition of Contract Year.</p>		To avoid ambiguity	The provisions of TSA are amply clear in this regard and shall prevail.
9.	<b>TSA</b>	<p>Clause no 2.3: Conditions prior to the expiry of the Transmission License</p> <p>2.3.1 In order to continue the Project beyond the expiry of the Transmission License, the TSP shall be obligated to make an application to the Commission at least two (2) years before the date of expiry of the Transmission License, seeking the Commission’s approval for the extension of the</p>	<p>There should be a provision in the TSA to cover the revenue loss that may be incurred by the TSP, in the case of the Appropriate Commission not granting extension of the Transmission License beyond the period of 25 years.</p>		The Transmission Charges to be quoted by the bidders would be based on the cash flow generated from the Project for 35 years and if, for any reason not attributable to the TSP (including any change in law), the	<p>This is as per the SBD and amendments thereof, issued by the Ministry of Power.</p> <p>Please also refer Article 4.1 (a) of the TSA.</p>

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		<p>term of the Transmission License up to the Expiry Date.</p> <p>2.3.2 The TSP shall timely comply with all the requirements that may be laid down by the Commission for extension of the term of the Transmission License beyond the initial term of twenty-five (25) years &amp; upto the Expiry Date and the TSP shall keep the Nodal Agency fully informed about the progress on its application for extension of the term of the Transmission License.</p>			<p>Transmission License is not extended by the Appropriate Commission beyond 25 years the TSP will suffer significant losses.</p> <p>The RFP / TSA should be suitably modified to provide security of continuation of the transmission business for at least 35 years.</p>	
10.	<b>TSA</b>	<p>3.1.3 The TSP agrees and undertakes to duly perform and complete the following activities <b>within six (6) months</b> from the Effective Date (except for c) below),</p> <p>.....</p> <p>c) To submit to the Lead Long Term Transmission Customers and STU &amp; Independent Engineer, the Project Execution Plan, immediately after award of contract(s) and maximum within</p>	<p>As per clause 3.1.3 h, the EPC contracts to be awarded in 6 months. Whereas as per clause 3.1.3 c, TSP is required to submit Project Execution Plan after awards of Contracts within 120 days. TSP shall not be in a position to submit project plan within 120 days from effective date if the award of EPC contract is awarded after 120 days, but before 6 months period.</p> <p>As such, the timelines mentioned in above clauses are contradictory and the same may be reviewed.</p>		<p>For clarity</p>	<p>This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.</p>

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		one hundred and twenty (120) days from the Effective Date. .... h) <b>To award the Engineering, Procurement and Construction contract (“EPC contract”) for the design and construction of the Project and</b> shall have given to such Contractor an irrevocable notice to proceed;				
11.	<b>TSA</b>	Clause 3.3.1: If any of the conditions specified in Article 3.1.3 is not duly fulfilled by the TSP even within three (3) Months..... in accordance with the provisions of this Agreement		Suggested text to be added at the end of this Article: “..... The additional Contract Performance Guarantee, if any provided by the TSP for delay in fulfilment of condition subsequent, shall be returned by the STUIL on fulfilment of conditions subsequent by the TSP”	The additional CPG is for specific default(s) and once such default(s) cease to exist, this additional amount of CPG should be returned. Additional CPG cannot be held back by the STUIL till COD of the Project.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
12.	<b>TSA</b>	Clause no 3.3.4: In case of inability of the TSP to fulfil the conditions specified in Article 3.1.3 due to any Force Majeure Event, the time period for fulfilment of the condition subsequent as mentioned in Article 3.1.3, may be extended for a period of such Force Majeure Event. Alternatively, if	The terms and conditions for termination of the TSA under this Article, including the termination payment and status of the SPV, need to be provided in the TSA.		In case the Force majeure event continues, the TSA will be terminated and the CPG will be returned. Other expenses that would have been incurred till	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

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		<p>deemed necessary, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders’ Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement and the Contract Performance Guarantee shall be returned as per the provisions of Article 6.5.1.</p> <p>.....</p>			<p>the date of termination of the TSA including the Acquisition Price paid for Acquiring the SPV and other incurred costs shall also be explicitly stated. There should be an explicit provision for refund of the Acquisition Price, along with the other expenses incurred by the TSP / Selected Bidder till such date of termination.</p>	
13.	TSA	<p>3.3.4</p> <p>.....</p> <p>Provided, that due to the provisions of this Article 3.3.4, ..... If the Scheduled COD is extended beyond a period of one hundred eighty (180) days due to the provisions of this Article 3.3.4, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the</p>	<p>In case project suffers from Force Majeure event for a period less than 6 months, interest cost during construction may be considered.</p>		<p>For project viability.</p>	<p>This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.</p>

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		<p>Transmission Charges in accordance with Schedule 9</p> <p>11.7 (e) Available Relief for a Force Majeure Event For avoidance of doubt, the TSP acknowledges that for extension of Scheduled COD a period up to one hundred eighty (180) days due to Force Majeure event, no compensation on the grounds such as interest cost,.....</p>				
14.	TSA	<p>4.6 Interconnection Facilities: 4.6.1 Subject to the terms and conditions of this Agreement, the TSP shall be responsible for connecting the Project with the interconnection point(s) specified in Schedule 1 of this Agreement. The Interconnection Facilities shall be developed as per the scope of work and responsibilities assigned in Schedule 1 of this Agreement. The Nodal Agency shall be responsible for coordinating to make available the Interconnection Facilities.</p> <p>4.6.2 In order to remove any doubts, it is made clear that the obligation of the TSP within the scope of the project is to construct the Project as per Schedule-1 of this Agreement and in particular to</p>	<p>It is understood that if interconnection facilities at the interconnection point is not available, whereas TSP has completed rest of the scope of the project, the project shall be considered as deemed COD and TSP shall be entitled to all the benefits envisaged under the TSA.</p>		For clarity.	<p>The provisions of TSA are amply clear in this regard &amp; shall prevail.</p>



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		connect it to the Interconnection Facilities as specified in this Agreement.				
15.	TSA	<p><b>6.1 Connection with the Inter-connection Facilities:</b></p> <p>6.1.1 The TSP shall give the RLDC(s), CTU, / STU, as the case may be, and any other agencies as required, at least sixty (60) days advance written notice of the date on which it intends to connect an Element of the Project, which date shall not be earlier than its Scheduled COD or Schedule COD extended as per Article 4.4.1 &amp; 4.4.2 of this Agreement, unless mutually agreed to by Parties. Further, any preponing of COD of any element prior to Scheduled COD must be approved by the Nodal Agency.</p> <p>6.2.1 An Element of the Project shall be declared to have achieved COD twenty four (24) hours following the connection of the Element with the Interconnection Facilities pursuant to Article 6.1 or seven (7) days after the date on which it is declared by the TSP to be ready for charging but is not able to be charged for reasons not attributable to the TSP subject to Article 6.1.2.</p>	<p>Reference is drawn to the Order of CERC 4/ADP/2016 dated 23.03.2016. Relevant extract of the Order is reproduced hereunder:</p> <p>“In the event the inter-connection facilities are not ready by SCOD or by revised SCOD (as may be revised by the petitioner and the LTTCs for the purpose of availing incentive as per MOP Policy) on account of non-readiness of the upstream or downstream transmission assets while the petitioner’s transmission system is ready for commissioning, the COD of the transmission assets of the petitioner may be declared in accordance with the provisions of Article 6.2 of the TSA (to be known as „deemed COD”) and the LTTCs/developers of the upstream and downstream assets shall be liable to pay the transmission charges from the deemed COD till the transmission assets are put into actual use.”</p> <p>From above, it is seen that even in case of SCOD when the systems are declared deemed COD as per</p>		Order of CERC 4/ADP/2016 dated 23.03.2016.	This shall be treated as per applicable CERC Regulations /Orders /TSA.

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		<p>Provided that an Element shall be declared to have achieved COD only after all the Element(s), if any, which are pre-required to have achieved COD as defined in Schedule 2 of this Agreement, have been declared to have achieved their respective COD.</p> <p>6.2.2 Once any Element of the Project has been declared to have achieved deemed COD as per Article 6.2.1 above, such Element of the Project shall be deemed to have Availability equal to the Target Availability till the actual charging of the Element and to this extent, TSP shall be eligible for the Monthly Transmission Charges applicable for such Element.</p>	<p>Article 6.2 of TSA, till the transmission assets are put into actual use, the transmission charges are liable to be paid by DICs/developers of the upstream and downstream assets.</p> <p>In such situations, it shall be construed that BPC has obtained consent of the DICs/ Upstream / Downstream / Generators (as applicable) for payment of transmission charges.</p> <p>Further, as per CERC order no. 104/MP/2018 dated 18<sup>th</sup> September 2018, downstream was directed to pay transmission charges to TSP.</p>			
16.	<b>TSA</b>	<p><b>Clause 6.3.1 (b)</b></p> <p>In case of delay due to Indirect Non-Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, TSP is entitled for payment for debt service which is due under the Financing Agreements, subject to a maximum of Transmission Charges calculated on Target</p>	<p>Clause 6.3.1 (b) covers the loss on debt amount which includes, due to Indirect Non-Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, TSP is entitled for payment for debt service which is due under the Financing Agreements. However, any loss on</p>			<p>This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.</p>

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		Availability, for the period of such events in excess of three (3) continuous or non-continuous Months in the manner provided in (c) below.	the equity is not covered in the above clause.  In order to compensate for the loss due to Indirect Non-Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, compensation to both equity as well as debt to be covered as per clause 6.3.1 (a).			
17.	TSA	10 BILLING AND PAYMENT OF TRANSMISSION CHARGES  10.3 Rebate & Late Payment Surcharge	Any changes in CERC regulations, which have an implication on Billing cycle and/or cost implication to the TSP due to change in rebate and late payment surcharge, the same shall be allowed to be recovered under Change in law.			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
18.	<b>TSA</b>	Clause no. 10.1: Subject to provisions of this Article 10, the Monthly Transmission Charges shall be paid to the TSP, in Indian Rupees, on monthly basis as per the provisions of this agreement, from the date on which an Element(s) has achieved COD until the Expiry Date of this Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this Agreement.		Subject to provisions of this Article 10, the Monthly Transmission Charges shall be paid to the TSP, in Indian Rupees, on monthly basis as per the provisions of the Sharing Regulations, from the date on which an Element(s) has achieved COD <u>or deemed to have achieved COD</u> until the Expiry Date of this	As per clause 6.2 of the TSA, the TSP is eligible for payment of Transmission charges from the date of deemed COD.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

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				Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this Agreement		
19.	TSA	11.4 Force Majeure Exclusions 11.4.1 (g) Any error or omission in the survey report provided by BPC during the bidding process.	The survey report furnished by BPC has to be accurate and any error or omission has to be owned by the BPC. Professional fees including fees for survey report is also claimed by BPC.			The survey report has been already issued to the bidders.  Please also refer Clause 2.5.7 of RFP Document.
20.	TSA Clause 12.1.1	Clause 12.1.1  Change in Law means the occurrence of any of the following <b>after the Bid Deadline</b> resulting into any additional recurring / non-recurring expenditure by the TSP or any savings of the TSP....	It is mentioned that in case any change in law event occurs on bid submission date or just prior to bid submission date, the bidders shall not have adequate time to understand the cost implication of such change in law event. Bidders cannot be exposed to such uncertainties and thereafter it is requested to consider any event <b>after 7 days prior to bid deadline as Change in Law event.</b> Furthermore, the bid submission is fixed at 12 noon. Whereas change in event could happen during the day even after 12 noon. Such clause can have			This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.  Also, please refer to clause 2.5.7 of the RFP.

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			serious implications on the viability of the project.			
21.	<b>TSA</b>	<p>12.1.2 Notwithstanding anything contained in this Agreement, Change in Law shall not cover any change:</p> <p>a. Taxes on corporate income; and; and</p> <p>b. Withholding tax on income or dividends distributed to the shareholders of the TSP.</p>	Any tax applied on the income or profits of the TSP need to be covered under change in law.		<p>Tax is an element beyond the control of the TSP.</p> <p>Change in tax or introduction of any tax is covered under change in law.</p> <p>Tax rate applicable on the income or profits of the TSP is beyond the control of the TSP and to assume the same for 35 years shall be a risk which is best assumed by the LTTCs accordingly this is to be reviewed.</p>	<p>This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.</p> <p>Also, please refer to clause 2.5.7 of the RFP.</p>
22.	<b>TSA</b>	<p><b>Clause 13.7</b></p> <p>If Agreement is terminated on account of Force Majeure Events, nonrequirement of any Element or Project during Construction, Nodal Agency's non-fulfilment of Role &amp; TSP's Event of Default, the TSP</p>	Kindly furnish the methodology of calculation of valuation of project asset.		For clarity	<p>Valuation of project assets shall be done as per the prevailing industry practices.</p> <p>Further, please refer Clause 18.2 e) of TSA.</p>

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		shall be entitled for Termination Payment equivalent to valuation of Project Assets. Upon payment, the Nodal Agency shall take over the Project Assets				
23.	TSA	<p><b>Clause 10.1.2.1</b></p> <p><b>10.1.2.1</b> 1 Any amount payable under an Invoice shall be paid in immediately available and freely transferable clear funds, for value on or before the Due Date, to such account of the TSP or Long Term Transmission Customer as shall have been previously notified to Long Term Transmission Customer or the TSP, as the case may be</p> <p><b>10.3 Rebate &amp; Late Payment Surcharge:</b></p> <p><b>10.3.1 Rebate:</b> : In case the Long Term Transmission Customer pays to the TSP through any mode of payment in respect of a Monthly Transmission Charge Invoice or Supplementary Bill, the following shall apply:</p> <p>a. For payment of Invoices through any mode of payment, a Rebate of 2% shall be allowed on the Monthly Transmission Charge Invoice or Supplementary Bill for</p>	<p>Timelines for payment of transmission charges is linked to “due date”. However, the “due date” is not defined in the TSA.</p> <p>It is requested to provide the definition of “due date” to avoid confusion and litigation.</p>		For clarity	<p>This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.</p>

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		<p>payments made in full within two Business Day of the receipt of the Invoice; or</p> <p>b. For payment of Invoices subsequently, but within the Due Date, a Rebate of 1% shall be allowed on the payments made in full.</p> <p>and</p> <p><b>others</b></p>				
24.	RFP Format 1 of Annexure 11 and others	<p>Resolution No 1</p> <p>“... and is hereby accorded for investment of.....% (.....per cent) of the total equity share capital of SPV <b>[which is under incorporation]</b> representing...”</p>	<p>The name of SPV is not furnished. As the Board approval is the first activity to undertake the bidding process for the project, it is requested to provide 45 days from date of informing SPV name to bidders as Board resolution requires name of the SPV.</p> <p>Alternatively, the bidder may be permitted to go ahead with the Board approval process as the format of RFP (without name of SPV) for timely submission of the bid.</p>	<p>Board resolution may be generalized as under:</p> <p>“... and is hereby accorded for investment of.....% (.....per cent) of the total equity share capital of SPV <b>as named in the RFP documents</b> representing...”</p>	Incomplete bidding document	The SPV name is <b>“Ishanagar Power Transmission Limited”</b> .
25.	RFP	<p>Clause 2.1.2</p> <p>“Experience of development of projects in the Infrastructure Sector in the last five (5) years with aggregate capital expenditure</p>	<p>As per QR, the capital expenditure under reference shall be as capitalised and reflected in the audited books of accounts of Technically Evaluated Entity.</p>		For more clarity for submission of appropriate QR credentials	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.

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		<p>of not less than Rs..... Crore or equivalent USD (calculated as per provisions in Clause 3.4.1). However, the capital expenditure of each project shall not be less than Rs..... Crore or equivalent USD (calculated as per provisions in Clause 3.4.1</p> <p>For this purpose, capital expenditure incurred on projects that have been commissioned/ completed at least seven (7) days prior to Bid Deadline shall be considered. The capital expenditure discussed above shall be as capitalized and reflected in the audited books of accounts of the Technically Evaluated Entity.....”.</p>	<p>In above regard, please clarify the following:</p> <p>Whether entire capital expenditure of various Project(s), meeting the value-wise threshold requirements of QR, as capitalised in last five years in the audited books of accounts of Technically Evaluated Entity, shall be considered;</p> <p>OR</p> <p>Whether only the capital expenditure incurred in the last five years of such Project(s), capitalised in last five years in the audited books of accounts of Technically Evaluated Entity, shall be considered.</p>			
26.	RFP	<p>Clause 2.11</p> <p>Each Bidder shall submit the Bid accompanied by Bid Bond issued by any of the Banks listed in Annexure-17. The Bid Bond shall be valid for a period of thirty (30) days beyond the validity of the Bid.</p>	<p>Verification of issued bid bond is done by the beneficiary bank of the BPC through SFMS platform from the issuing bank of the bidder.</p> <p>In above regard, BPC is requested to provide following details.</p> <ul style="list-style-type: none"> <li>- Bank account detail of beneficiary alongwith IFSC code and Branch address</li> </ul>		Bidder needs information for issuance of Bid Bond	RFP document is amply clear in this regard.



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			- Unique Identifier of the beneficiary (if applicable) (The unique identifier needs to be incorporated by the issuing bank in Field 7037 of the IFIN 760 COV/IFIN COV while transmitting verification messages to the Beneficiary Bank through SFMS).			
27.	RFP	<p>Annexure 14 (Format of the Bid Bond) Addressee details are not mentioned in the beginning of the format</p> <hr/> <p>Annexure 14 (Format of the Bid Bond) “....In consideration of the.....”</p>	<p>Addressee details to whom Bid Bond is to be addressed are not mentioned in the Bid Bond Format. It is requested to mention the followings at starting of the format:</p> <hr/> <p>Annexure 14 (Format of the Bid Bond) <b>“To,</b> <b>Designation of officer</b> <b>Name of BPC</b> <b>Address of BPC</b></p> <p>In consideration of the.....”</p>			RFP document is amply clear in this regard.
28.	RFP	<p>Clause 1.6.2.2 – The details and documents as may be obtained by the BPC/ project specific SPV in relation to the</p>	BPC to get the <b>GST registration and GST TAN</b> registration in the name of SPV in the State of Project execution where supply of		For immediate commencement of execution of work by the SPV upon	BPC will complete its responsibilities as listed in the RFP documents.

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		Project shall be handed over to the TSP on an as-is-where-is basis, so that it may take further actions to obtain <b>Consents, Clearances and Permits</b>	Goods and Services shall take place.		acquisition by the successful bidder.	Please also refer Clause 1.6 & 2.5.7 of the RFP document.
29.	SPA	Clause 1.2 (i) “Acquisition Price” shall mean INR _____ (Rupees _____ only) [Insert the value of the Acquisition Price, both in figures and in words respectively], which is the aggregate consideration payable by the Selected Bidder towards purchase of the Sale Shares at par along with assets and liabilities of the Company as on the Closing Date subject to adjustment as per the <b>audited accounts of the Company</b> as on the Closing Date;	As per clause 1.2 (i) of the Share Purchase agreement, BPC is required to provide audited financial statement as on the closing date for adjustment, if any, in regard to aggregate consideration for acquisition of the SPV.  It is requested to BPC to furnish <b>audited financial statement within 15 days</b> of the closing date.		Audited financial statement is required for accounting in the books of successful bidder to ascertain acquisition price on closing date. An undertaking that the audited financial statements shall be provided within 15 days from the closing date may be furnished by BPC for making the payment of acquisition price by successful bidder.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
30.	General	Name of the SPV	Name of the SPV is not mentioned		Incomplete bidding document	The SPV name is <b>“Ishanagar Power Transmission Limited”</b> .
31.	TSA	Clause 2.2.2	It is required that post the Expiry Date, the TSP to transfer the Project to CTU within a period of 90 days.	BPC to clarify the following: a. Who will be responsible for	Bidder needs the information for proper estimation	The transfer of all project assets along with substation land, right of way and clearances shall

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				<p>O&amp;M of the Project post Expiry Date till the Project is transferred as the Agreement will automatically terminate on Expiry Date?</p> <p>Whether the TSP will be paid for the O&amp;M for the period post Expiry Date till the Project is transferred if the TSP will manage the O&amp;M post Expiry Date?</p>		<p>be completed at the end of 35 years from COD of the Project.</p> <p>All the expenditure till the transfer of all project assets along with substation land, right of way and clearances shall be borne by TSP.</p>
32.	TSA	Clauses 4.1(f) and 4.2.1(e)	These clauses provide assistance by Nodal Agency or TSP to the Arbitrators as required for the performance of their duties and responsibilities.	BPC to provide the definition of Arbitrators used as defined term.	Bidder needs the information for proper estimation	This is as per the SBD and amendments thereof, issued by the Ministry of Power.
33.	RFP	<p>RFP, section-1, Clause 1.5, Para 3</p> <p>“The TSP shall ensure transfer of all project assets along with substation land, right of way and clearances to CTU or its successors or an agency as decided by the Central Government after 35 years from COD of project at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days after 35</p>	<p>1) Please note that there is no clarity about the liability of the TSP post Transfer of asset. We request BPC to define the process of Transfer.</p> <p>2) As the project is BOOT basis, we request BPC to provide Transfer Agreement for bidder’s review and assessment.</p>		Bidder needs the information for proper estimation.	<p>1. The project assets along with substation land, right of way and clearances shall be transferred to nodal agency or its successors or an agency as decided by the Central Government after 35 years from COD of project at zero cost and</p>

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		<p>years from COD of project failing which CTU shall be entitled to take over the project assets Suo moto”.</p>	<p>3) As the project is BOOT basis, what will be the Liability of TSP in case of any Default post Transfer to CTU.</p> <p>4) As per the RFP, the transfer shall be completed within 90 days after 35 years from COD of project failing which CTU shall be entitled to take over the project assets Suo moto. We request BPC to confirm whether the Project is required to be given on as is where is basis or if CTU can ask for certain refurbishments to be done?</p> <p>It is requested to BPC to confirm will there be an obligation of the TSP to obtain re obtain the clearance at the time of Transfer, in case of NHAI, Road, Highways etc.</p>			<p>free from any encumbrance and liability and no elaborate process is required to be laid down. Further, other issues, if any, shall be dealt as per prevailing laws &amp; regulations.</p> <p>2. Transfer Agreement, if required, may be mutually agreed between the parties at that point of time.</p> <p>3. In case there is any liability due to an event that has occurred prior to transfer of project assets same shall have to be discharged by TSP.</p> <p>4. The project assets will be transferred in working condition subject to observations of Nodal agency in the examination to be carried out three (3) years prior to the expiry of the project to assess the need of upgradation of the system or renovation and</p>
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						modernization of the existing system.  5. Please refer definition of Project Assets in this regard which is amply clear in this regard and shall prevail.
34.	RFP	RFP, Section-2 Clause no. 1.6.1.5 – Grant of Section 164 Approval - The TSP shall seek approval under Section 164 of Electricity Act, from CEA after acquisition of ER NER Transmission Limited. The approval shall be granted by CEA generally within 30 days but in no case later than 45 days from the date of receipt of application (complete in all aspects).	We request BPC to confirm that in case of delay in grant of section 164 approval beyond 45 days by CEA, will this qualify as Force Majeure (FM) event under TSA, and we can get relief as per TSA.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power. The provisions of RFP shall prevail.
35.	RFP	Request for Proposal Notification, Disclaimer This RFP may be withdrawn or cancelled by the BPC at any time without assigning any reasons thereof. BPC further reserves the right, at its complete discretion to reject any or all of the Bids without assigning any reasons whatsoever.”	We would like to mention that it will be unreasonable on part of BPC to reject a bid without assigning any reason. Since the BPC can be construed as ‘state’ under the Constitution, conduct of BPC ought to have transparent and as such BPC cannot take any decision without assigning proper reason/ justification.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power. The provisions of RFP shall prevail.
36.	RFP	Definition: Conflict of Interest” A Bidder shall be considered to be in a Conflict of Interest with one or more Bidders in the same bidding	It needs to be noted that this definition is vague and wide in as much as it only requires that an entity is able to have access; it is		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and

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		process if they have a relationship with each other, directly or through a common company, that puts them in a position to have access to information about or influence the Bid of another Bidder	immaterial whether information was accessed or not, just the fact that a party is in a position to access information or influence bid of another party is enough. As far as this aspect is concerned, this definition should be amended.  This should further cover any conflict-of-interest situation between the BPC and any of the bidder			hence, no change is envisaged.
37.	RFP	Annexure-B, Clause 3.3 provides that “the Bidder shall disclose the name and address of agents and representatives and Indian Bidder shall disclose their foreign principals or associates”.  Clause 3.4 states that “the Bidder shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid”.	BPC is requested to clarify the rationale for having this clause? We understand that The Bidder is free to engage any consultant as long as it is under the purview of applicable law.		Bidder needs the information for proper estimation	This is as per the SBD and amendments thereof, issued by the Ministry of Power. The provisions of RFP shall prevail.
38.	Transmission Service Agreement	TSA: Clause F The TSP has agreed to execute the agreement(s) required, if any, under Sharing Regulations within fifteen (15) days from the date of grant of Transmission License from the Commission.	Please note that the Sharing Regulations only provides for Supplementary TSA and Revenue Sharing Agreement with CTU. Kindly confirm is there any other Agreement which is also required to be signed?		Bidder needs the information for proper estimation.	Please refer Clause No. 2.5.7 of RFP document.

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39.	Transmission Service Agreement	TSA: Clause H The billing, collection, and disbursement of the Transmission Charges by the CTU to the ISTS Licensee shall be governed as per Sharing Regulations.	In case of the default in the payment by the DIC, BPC is requested to clarify following. a) How will the Transmission charges be recovered? b) what is the assurance for recovery of Transmission charges in view of the repeal of the Regulation of the power supply 2010 by the CERC.		Bidder needs the information for proper estimation.	The payment of Transmission Charges by the CTU to the ISTS Licensee shall be governed as per CERC Sharing Regulations, as amended from time to time.
40.	Transmission Service Agreement	TSA ARTICLE: 1 Definitions and Interpretations Independent Engineer” shall mean an agency/ company, appointed by Nodal Agency in accordance with the Guidelines for Encouraging Competition in Development of Transmission Projects TSA ARTICLE: 18 18.3 Remuneration of Independent Engineer	We understand that as the Independent Engineer to be appointed by Nodal Agency (CTU), The fee and charges of the Independent Engineer shall be paid by CTU and TSP does not have to consider any fee and charges of the Independent Engineer in its bid.		Bidder needs the information for proper estimation.	Provisions of the TSA are amply clear in this regard and shall prevail.
41.	Transmission Service Agreement	TSA ARTICLE: 1 Definitions and Interpretations Definition of Nodal Agency Nodal Agency” shall mean CTU, which shall execute and implement the Transmission Service Agreement (TSA);	The provision to the definition states that while taking major decisions, CTU shall consult CEA on technical matters and any other matter if it feels necessary.  BPC is requested to provide clarity on what would constitute ‘major decisions’; further, what would be the nature of consultation is not clear, whether such consultation would be		Bidder needs the information for proper estimation.	Nodal Agency will consult the CEA on case-to-case basis as per the provisions of the Standard Bidding Documents.

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			binding or just advisory in nature? Further, there is an element of discretion as well on the part of CTU, which should be done away with.			
42.	Transmission Service Agreement	<p>TSA ARTICLE: 6</p> <p>Clause no. 6.1.1</p> <p>The TSP shall give the RLDC(s), CTU, / STU, as the case may be, and any other agencies as required, at least sixty (60) days advance written notice of the date on which it intends to connect an Element of the Project, which date shall not be earlier than its Scheduled COD or Schedule COD extended as per Article 4.4.1 &amp; 4.4.2 of this Agreement, unless mutually agreed to by Parties. Further, any preponing of COD of any element prior to Scheduled COD must be approved by the Nodal Agency.</p>	BPC is requested to clarify in case of preponement of COD, whether the agreement will be effective for a period of 35 years from the date of such COD, or will there be extra period that will be granted to TSP as an incentive for declaring the commissioning earlier than the SCOD?		Bidder needs the information for proper estimation.	Provisions of TSA are amply clear in this regard and shall prevail.
43.	Transmission Service Agreement	<p>TSA ARTICLE: 11</p> <p>Clause no. 11.4.1</p> <p>.....</p> <p>(g) Any error or omission in the survey report provided by BPC during the bidding process</p>	We request BPC to remove the point no g from the Force Majeure Exclusions.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power and hence, no change is envisaged.
44.	Transmission Service Agreement	<p>TSA ARTICLE: 13</p> <p>Clause no.13.7</p> <p>Termination Payment -</p>	As there is no mechanism for termination payment. We request BPC to provide the mechanism for		Bidder needs the information for proper estimation.	This is as per the SBD and amendments



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		If Agreement is terminated on account of Force Majeure Events, nonrequirement of any Element or Project during Construction, Nodal Agency’s non-fulfilment of Role & TSP’s Event of Default, the TSP shall be entitled for Termination Payment equivalent to valuation of Project Assets. Upon payment, the Nodal Agency shall take over the Project Assets.	compensating the cost incurred by the TSP for construction of asset, in case of non-requirement of any element during construction stage.			thereof, issued by the Ministry of Power.
45.	Transmission Service Agreement	TSA ARTICLE: 3 Clause No. 3.3.4 Provided, that due to the provisions of this Article 3.3.4, any increase in the time period for completion of conditions subsequent mentioned under Article 3.1.3, shall lead to an equal increase in the time period for the Scheduled COD. If the Scheduled COD is extended beyond a period of one hundred eighty (180) days due to the provisions of this Article 3.3.4, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9.	What is the rationale for only IDC recovery and no other expenditure like project cost overrun (such as overheads & price variation etc.)		Bidder needs the information for billing purpose.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.

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46.	Transmission Service Agreement	TSA ARTICLE: 8 8.2 Target availability The Target Availability of each Element and the Project shall be 98%.	As per previous TSA, target availability was at project level not for each element. We request BPC to maintain target availability at Project level only.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.
47.	Transmission Service Agreement	TSA ARTICLE: 12 Relief for change in law 12.2.3 - 12.2.3 For any claims made under Articles 12.2.1 and 12.2.2 above, the TSP shall provide to the Nodal Agency documentary proof of such increase / decrease in cost of the Project / revenue for establishing the impact of such Change in Law.	Please note that No timelines defined for response by CTU in case of CIL event. We request BPC to define timeline in which CTU will respond to the TSP.		Bidder needs the information for proper estimation.	The provisions of TSA are amply clear in this regard.
48.	Transmission Service Agreement	TSA ARTICLE: 12 Payment on account of Change in Law 12.4.1 The payment for Change in Law shall be through a separate Bill. However, in case of any change in Monthly Transmission Charges by reason of Change in Law, as determined in accordance with this Agreement, the Bills to be raised by the Nodal Agency after such change in Transmission Charges shall appropriately reflect the changed Monthly Transmission Charges.	BPC is requested to provide the format and timeline for submission of separate bill of separate bill for settlement of CIL events?		Bidder needs the information for proper estimation.	The provisions of TSA are amply clear in this regard.
49.	Transmission Service Agreement	Schedule 2	BPC is requested to clarify that in case an element is successfully commissioned and is put to		Bidder needs the information for proper estimation.	The provisions of TSA are amply clear in this regard and shall prevail.

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		The payment of Transmission Charges for any Element, irrespective of its successful commissioning on or before its Scheduled COD, shall only be considered after successful commissioning of the Element(s), which are prerequisite for declaring the commercial operation of such Element as mentioned in the above table.	use/power flows, but the pre-required element is not successfully commissioned. Will TSP be eligible for getting Tariff?			
50.	Transmission Service Agreement	<p>Schedule 9</p> <p>Methodology for determining the Relief Under Force Majeure Event &amp; Change in Law during Construction Period</p> <p>The relief in the form of revision in tariff due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days and/ or Change in Law during the construction period shall be as under: <math>\Delta T = [(P \times d)] \div [1 - (1 + d)^{-n}]</math></p>	What is the rationale for the increase in Transmission Charges as stated above shall be applicable only if the value of increase in Transmission Charges as calculated above exceeds 0.30% (zero-point three percent) of the quoted Transmission Charges of the TSP.		Bidder needs the information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.
51.	RFP	ANNEXURE 22 – FORMAT FOR AFFIDAVIT	<p>We would like to mention that with reference to the RFP Clause 2.1.9 Bidders shall confirm a notarized affidavit as per Annexure 22.</p> <p>Please note for large conglomerates signing on behalf of all the affiliates can run into hundreds of numbers and</p>		Bidder needs the information for preparation of techno-commercial bid.	The declaration and details with respect to Clause 2.1.9 of RFP is to be provided by the bidding company including Affiliate / Parent company of the Bidding company being used for meeting

**Clarifications dated 19.09.2023 on RFP Project Documents for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process.**

			different geographies, is practically impossible. We request you to allow Annexure-22 to be signed by the Authorized signatory of the Bidding company on behalf of Bidding entity only.			financial / technical qualification requirements as per Annexure 22 of the RFP document. The signing of the format has to be done as per provisions of RFP Document.
52.	RFP	Definitions: Transmission Service Agreement” or “TSA” shall mean the agreement entered into between Nodal Agency and the TSP, pursuant to which the TSP shall build, own, operate and transfer the Project and make available the assets of the Project on a commercial basis.	As per the bidding documents TSA shall be signed between Nodal agency and TSP only. We request BPC to clarify role of Designated ISTS Customers and linkage of Designated ISTS Customers to TSA.		Bidder needs the information for proper estimation.	Please refer Clause 2.5.7 of RFP.
53.	RFP/ Annexure no. 15- format for Contract Performance Guarantee	Annexure no. 15- format for Contract Performance Guarantee/ Last Para  Notwithstanding anything ..... (365) days thereafter. This BANK GUARANTEE shall be extended from time to time for such period, as may be desired by..... [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV].	Kindly note that the Government banks are not issuing the contract Performance Guarantee in the provide format of contract performance Guarantee and requested modification in the format.  In view of the same, we request BPC to modify the last Para of the Performance Guarantee format as highlighted in red font below:  Notwithstanding anything ..... (365) days thereafter. This BANK GUARANTEE shall may be extended from time to time for such period, as may be		Based on the issuing bank requirement.	This is as per the SBD and amendments thereof, issued by the Ministry of Power. No change is envisaged.

**Clarifications dated 19.09.2023 on RFP Project Documents for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process.**

			desired by..... [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV and ..... [Insert name of the Bank].			
54.	TSA	Schedule: 9 Methodology for determining the Relief Under Force Majeure Event & Change in Law during Construction Period.	As per Schedule 9 of the TSA, the Discount rate as notified by the CERC would be applicable for calculation of relief under occurrence of Change in Law and Force Majeure event. CERC notified ‘Discount rate for computation of levelized transmission charges’ is 8.09% on 30th March, 2022, please confirm if this Discount rate for computation of levelized transmission charges is to be considered for this calculation under schedule-9.		Bidder needs information for proper estimation.	This is as per the SBD and amendments thereof, issued by the Ministry of Power.
55.	RFP for Selection of Bidder as Transmission Service Provider & TSA	Section-2, clause no. 2.6. Project Schedule  Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project & TSA: Schedule-4 Computation of Transmission Charges	Please note that there are 2 nos. of Transmission elements in the subject project. We understand that all elements of the scheme are required to be commissioned simultaneously as their utilization is dependent on each other and hence considering the same percentage of quoted transmission charges are clubbed and mentioned as single percentage (100%) for all these elements.		Bidder needs information for proper estimation.	RFP document is amply clear in this regard and no change is envisaged.

**Clarifications dated 19.09.2023 on RFP Project Documents for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process.**

			<p>BPC will appreciate that during Operation of the of the asset, if any outages happen to any element/elements of said asset or any scenarios occurs which are illustrated in schedule-4 of TSA then it will be difficult to compute payment of Transmission Charges under various scenarios based on the availability of each element.</p> <p>In view of the above, BPC is requested to provide tariff break-up of each element.</p>			
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Clarifications dated 27.09.2023 on RFP Project Documents for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process.

Sl No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1.	RFP	General	Kindly confirm:  i) whether the Project / Elements are covered under “Generation linked Project” or “System Strengthening Project”			The subject transmission scheme has been approved as “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”.
2.	RFP	General	Kindly confirm:  Whether the Project/ Elements are eligible for early commissioning incentive as per MoP, GoI order dated 15.07.2015.			The provisions in TSA pertaining to commissioning shall prevail which interalia covers the matter of preponing of CoD. The TSP may approach the Committee constituted by MoP vide its OM No. 15/1/2013-Trans dated 14.12.2021 to ensure smooth operationalization of the Policy for early commissioning.
3.	Clause no B.1.2 (v)	<b>B.1.2 Switching scheme</b>  v) Bus sectionalizer: One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of	As per scope of work specified in RFP Each 220kV Bus section comprises of TBC bay. However a Isolator between each section has been asked in transfer bus. This system shall create a		Bidder needs information for proper estimation	Please refer <b>Amendment IV</b> in this regard.

		bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses and isolator for Transfer bus.	complex arrangement for interlocking of the Section Isolator with TBC of each Section and Transfer bus Isolator of each bay. Considering this the requirement of Section Isolator in Transfer bus may be revisited.			
4.	Clause no B.1.2	<b>B.2.2 (765/<math>\sqrt{3}</math>) kV, Single Phase Shunt Reactor</b> Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and line reactor banks (including for future reactor banks) without its physical movement.	We understand that 765kV spare unit of Bus Reactors under present scope, shall be utilized for Future Switchable Line Reactor also. In this regard we understand that TSP has to provide 1-Ph Circuit breaker along with associated CB relay panel, CT Switching arrangement etc under present scope.  Please confirm.		Bidder needs information for proper estimation	Bidders understanding is correct.  It is clarified that all necessary equipment & arrangement shall be provided by the TSP so that spare unit can be utilized for all the future switchable line reactor banks also without its physical movement.
5.	RFP	Clause 1.2 LILO of one circuit of Jabalpur – Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	BPC is requested to confirm the availability of OPGW in the existing line and if available, please mention the number of fibers.  Also, BPC is requested to specify make and model of		Bidder needs the information for proper estimation	24 F OPGW implementation work is under progress on Jabalpur – Orai 765 kV D/c line.  ECI make NPT-1200 STM-16 FOTE is available at both Jabalpur PS and Orai S/s end.



			FOTE equipment at both ends (Jabalpur and Orai)			
6.	RFP	Clause 1.2 LILO of one circuit of Jabalpur – Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	BPC is requested to share the route length for both the sections of LILO.		Bidder needs the information for proper estimation	The survey report has been already issued to the bidders.  Further, please refer clause No 2.5.7 of the RFP document.
7.	TSA	5.1.4.(a)	The actual location of substations, switching stations or HVDC terminal or inverter stations shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report.	BPC to clarify that in case no land is available for substations, switching stations or HVDC terminal or inverter stations within 3 KM radius of the location proposed by the BPC in the survey report, whether the selected bidder can opt for the land beyond 3KM?	Bidder needs the information for proper estimation	No, the sub-station should be located within 3 km radius of the location proposed by the BPC in the survey report as per the TSA.
8.	RFP for Selection of Bidder as Transmission Service Provider	Specific Technical requirements for Transmission Line	For transmission line, no special requirement is specified for type of Insulator and creepage in RFP document.  Hence it is understood that bidder can decide the type of insulator along with creepage requirement based on general CEA regulations and relevant standards. Kindly confirm.		Bidder needs information for proper estimation.	The minimum specific creepage distances shall be decided for the pollution condition in the area of installation. It shall be as per CEA regulations and relevant standards.

9.	RFP	Clause-1.2 Scope of the Transmission Scheme	Kindly provide coordinates of both end termination locations for proposed transmission line under present scope.	-	For Preparation of Bid	The survey report has been already issued to the bidders.  Further, please refer clause No 2.5.7 of the RFP document.
10.	RFP	Clause-1.2 Scope of the Transmission Scheme	Kindly clarify which circuit to be tapped for LILO of Jabalpur - Orai 765kV D/C line at proposed Ishanagar (New) substation.	-	For Preparation of Bid	The TSP to decide the final tapping point for LILO of one circuit of Jabalpur-Orai 765kV D/C line in coordination with the transmission line owner/CTUIL/CEA, during execution stage.  Further, Bidder may visit the site and acquaint themselves with site conditions. Please also refer clause No 2.5.7 of the RFP document.
11.	RFP	Annexure C Specific Technical Requirements for Transmission Line Clause A.7.0	Kindly provide type of conductor used in existing 765kV Jabalpur - Orai line to select conductor for present scope.	-	For Preparation of Bid	Bidder to provide conductor configuration as per Clause A.7.0 of RFP for the present scope. Bidder may visit site for existing details. Please also refer clause No 2.5.7 of the RFP document.
12.	RFP	Annexure C Specific Technical Requirements for Transmission Line Clause A.20.0 "The TSP shall abide by the Guidelines of CEA w.r.t. shifting of transmission lines for NHAI projects	Kindly specify which guideline to be followed by TSP as there are several guidelines issued by CEA time to time for shifting of transmission lines for NHAI projects. Also, it is requested to BPC for providing details of any under construction or upcoming NHAI/other projects in present	-	For Preparation of Bid	Procedure for shifting of Transmission Lines involving works by other Infrastructure Developers circulated vide CEA's letter dated 10-03-2023 to be followed. Further, for crossing of railway tracks, national highways and state highways, the rules/regulations of appropriate authorities shall be followed.

		and other projects".	corridor, so that same can be considered in selection of route.			Please also refer Clause No 2.5.7 of RFP document.
13.	General	-	Kindly provide under construction or upcoming renewable energy park in and around project location under present scop, so that bidder may consider the same in selection of route alignment.	-	For Preparation of Bid	No renewable energy park/developer has applied for Connectivity at Ishanagar (New) S/s as on date.
14.	TSA	Clause 5.5.6	For any delay in commissioning any critical Element(s), as identified in Schedule 1 & Schedule 2 of this Agreement, beyond a period of 45 days shall lead to a sequestration of 10% of the Contract Performance Guarantee.	As a general practice, the CERC considers any request for extension of time post COD of the Project. BPC to clarify that whether the 10% of CPBG will be invoked even when such delay is caused due to Force Majeure events and without adjudication on the validity of such claims?	Bidder needs the information for proper estimation	As per clause 4.4.2 the TSA, in case of Force Majeure events, SCOD will be extended for the period of such Force Majeure event and therefore, the issue of sequestration of 10 % of the Contract Performance Guarantee due to delay in commissioning on account of Force Majeure event does not arise.



**Additional Clarifications dated 13.11.2023 on RFP Project Documents for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process.**

Sr. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1	RFP Document Page 3 of 152	Sr. no. 1 Scope of the Transmission Scheme	Kindly confirm that Switchable Line Reactors (SLR) installation or space provision for SLRs are not required for proposed 765kV Jabalpur – Ishanagar and 765kV Ishanagar - Orai lines at Ishanagar S/s		Clarification required for understanding project requirement and cost estimation.	It is clarified that space provision for installation of future switchable line reactors shall be kept by TSP.
2	RFP Document Page 131 of 152	B.1.2 Switching Scheme	Considering substantial number of 765kV, 400kV transformers and 765 kV, 400 kV & 220kV Bays along with Bus section arrangement, BPC is requested to provide Feeder distribution arrangement at 765kV, 400kV & 220kV bus.		Clarification required for understanding project requirement and cost estimation.	Details of feeder distribution is not provided since bus-sectionalizer is envisaged in future.
3	RFP Document Page 131 of 152	B.1.2 Switching Scheme	Considering substantial number of 765kV, 400kV transformers and 765 kV, 400 kV & 220kV Bays along with Bus section arrangement, it will be difficult to accommodate 220kV bus as single bus with three bus sections (by		Clarification required for understanding project requirement and cost estimation.	As per RfP, two separate 220kV switchyard is not envisaged.

Sr. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
			providing two bus section breakers) in given substation plot. We may provide two separate 220kV switchyard (i.e. in two halves) on either side of 400kV switchyard. Each 220kV switchyard will have two bus sections (by providing one bus section breaker) and complying with CEA regulations as well as RFP requirements. Kindly check and confirm that the above proposed arrangement will be acceptable.			
4	RFP Document Page 131 of 152	B.2.0 Substation Equipment and facilities	We understand that TSP has to follow 'Guidelines for the Validity Period of Type Test(S) conducted on Major Electrical Equipment in Power Transmission' issued by CEA (Latest edition). Kindly confirm.		Clarification required for understanding project requirement and cost estimation.	Regarding Type test CEA's latest "Guidelines for the type tests for major equipment of power sector" shall be followed to the extent applicable.
5	RFP Document B.2.1 (765/√3)/(400/√3)/33 kV, Single Phase Autotransformer	Dynamic SC Test Requirement for 500MVA 765kV and 500MVA, 400kV ICT.	For 500MVA 765kV and 500MVA, 400kV ICT; Annexure – J & SC Test is not applicable as per Amendment – I to CEA Specification i.e. "The Dynamic short circuit		Clarification required for understanding project requirement	For requirement of Dynamic short circuit (DSC) withstand test for 765 kV voltage class Auto Transformer and 500

Sr. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
	Page 132 of 152 B.2.3 400/220/33kV, 3-phase Autotransformer Page 132 of 152		(DSC) withstand test for these transformers shall be applicable for the projects for which bid invitation date is after 31 <sup>st</sup> August 2025". (Ref CEA letter dated 26.06.2023).  Kindly confirm TSP understanding is correct.		and cost estimation.	MVA, 400 kV Voltage Class Auto transformer CEA's letter No. CEA-PS-14-169/2/2019-PSETD Division dated 26.06.2023 shall be followed.
6	RFP Document Page 134 of 152	B.2.6 d) Bus bar Protection	As bus section at 765kV, 400kV & 220kV voltage levels at Ishanagar substation is under future scope, we understand that TSP shall provide bus bar protection suitable for bays on one bus section of 765kV, 400kV & 220kV.		Clarification required for understanding project requirement and cost estimation.	TSP shall provide bus bar protection suitable for bays (present + future) on present bus section of 765kV, 400kV & 220kV considering proper distribution of feeders/ elements for the whole substation.
7	RFP Document Page 137 of 152	B.2.7 Substation Automation System	Existing station gateway at Jabalpur and Orai substation can be used for data communication to RLDC. Kindly confirm.		Clarification required for understanding project requirement and cost estimation.	The same shall be co-ordinated by the TSP with the existing owner. Please refer Clause No 2.5.7 of RFP Document.

Sr. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
8	RFP Document Page 137 of 152	B.3.1 AC & DC power supplies For catering the requirements of three phase & single-phase AC supply and DC supply for various substation equipment (for present and future scope), the following arrangement is envisaged: - For LT Supply at each new Substation, two (2) nos. of auxiliary Transformers (minimum 800kVA for substations with highest voltage rating as 765kV) shall be provided which shall be fed from two independent sources as per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007.	Since two independent 765kV sources will be available for proposed substation, TSP to consider 33kV auxiliary supply from tertiary winding of two Auto Transformers (765kV or 400 kV class as per layout requirement.) Kindly confirm that TSP understanding is correct.		Clarification required for understanding project requirement and cost estimation.	As per RfP, LT supply shall be fed from two independent sources. Accordingly, auxiliary supply from tertiary winding of two Auto Transformers of a single substation is not considered to be two independent sources.
9	RFP Document Page 142 of 152	C.3.0 PLCC & PABX	Kindly provide the make and model of Analog and Digital		Clarification required for	Bidder may visit the substation site for



Sr. No	Name of the Document	Clause No. and Existing provision	Clarification required	Suggested text for the amendment	Rationale for the Clarification or Amendment	RECPDCL Response
		LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s	PLCC at 765kV Jabalpur & 765kV Orai substation.		understanding project requirement and cost estimation.	make & model of PLCC. Please refer Clause No 2.5.7 of RFP Document.
10	RFP Document Page 142 of 152	C.2.0 LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s	Please confirm optical ports and SFP cards are available in the existing FOTE equipments for the new direction of a) 765kV Jabalpur - Ishanagar at existing Jabalpur Substation b) 765kV Ishanagar - Orai lines at existing Orai substation		Clarification required for understanding project requirement and cost estimation.	<i>Optical Ports are available for:</i> a) 765kV Jabalpur - Ishanagar at existing Jabalpur Substation b) 765kV Ishanagar - Orai lines at existing Orai substation  However, TSP shall provide suitable optical interfaces/equipment at Jabalpur S/S and Orai S/S to meet link budget requirement for connectivity with Ishanagar S/S to be used for ULDC purpose.
11	Survey Report		As per the survey report, the land area for the substation is 120 acres (Approx. 830m X 580m). Proposed substation		Clarification required for understanding project	TSP can acquire any size of land as per their detail engineering and

<b>Sr. No</b>	<b>Name of the Document</b>	<b>Clause No. and Existing provision</b>	<b>Clarification required</b>	<b>Suggested text for the amendment</b>	<b>Rationale for the Clarification or Amendment</b>	<b>RECPDCL Response</b>
			plot size seems to be insufficient considering no of bays stipulated in Ishanagar substation. Requested BPC to review proposed substation plot size. Also kindly confirm whether TSP to acquire minimum land parcel (120 acre) or TSP can acquire any size as per the actual layout requirement.		requirement and cost estimation.	assessment considering the scope of work (Present and future) as mentioned in the RFP document and subsequent amendment/ clarification (if any).  Please also refer Clause No. 2.5.7 of RFP document.

**Additional Clarifications dated 17.11.2023 on RFP Project Documents for selection of Bidder as Transmission Service Provider to establish Transmission System for “Western Region Expansion Scheme XXXIII (WRES – XXXIII): Part C” through tariff based competitive bidding process**

Sl No.	Name of the document	Clause No. and Existing provision	Clarification required	Suggested text for the Amendment	Rationale for the Clarification or Amendment	RECPDCL Response
1.	RFP Document Page 21 of 152	1.6 Brief Scope of Work 1.6.1.1 Establishment, operation and maintenance of the Project on build, own, operate and transfer basis and completion of all the activities for the Project, including survey, detailed project report formulation, arranging finance, project management, necessary Consents, Clearances and Permits (way leave, environment & forest, civil aviation, railway/ road/river/ canal / power crossing / PTCC, etc.), land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning. Further, the actual location of substations, switching stations or HVDC terminal or inverter stations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report.	Kindly confirm whether the proposed substation is an intermediate substation.		Clarification required for understanding project requirement and cost estimation.	<p>Ishanagar substation is classified as a load serving substation as it would primarily cater to the MP loads in the adjoining areas.</p> <p>The proposed substation (greenfield load serving substation) shall not be beyond 3 km radius of the proposed location as mentioned in the survey report. Bidder may visit the site and acquaint themselves with the site conditions. Please also refer Clause No. 2.5.7 of RFP and 5.1.4 of TSA document.</p>



Ref No: RECPDCL/TBCB/WRES XXXIII Part-C/2023-24/ 2421

Date: 20.10.2023

**Mr. Wasim Alam, Senior Manager - Bidding & BD,**  
**M/s IndiGrid 2 Limited,**  
Unit No 101, First Floor,  
Windsor Village, Kolkalyan Off CST Road,  
Vidyanagari Marg, Santacruz (East) Mumbai,  
Maharashtra - 4000098.

**Annexure P-8 (colly)**

**Subject: Unexecuted finalized Transmission Service Agreement (TSA) for "Western region Expansion Scheme XXXIII (WRES-XXXIII) Part C" to be implemented through Tariff Based Competitive Bidding process.**

Dear Sir,

This has reference to the RFP dated 22.05.2023 for selection of Transmission Service Provider to establish Transmission System for "Western region Expansion Scheme XXXIII (WRES-XXXIII) Part C" (hereinafter referred to as "the Project") through tariff based competitive bidding process.

As per clause 9.4.3 of Tariff based Competitive-bidding Guidelines for Transmission Service, "*The TSP on the date of acquisition of SPV from the BPC will enter into a Transmission Service Agreement (TSA) with the Nodal Agency (in case of interstate projects)/ the concerned utilities (in case of intra State projects)*". Accordingly, TSA has to be executed between Nodal Agency i.e., CTU and TSP on the day of transfer of project specific SPV to the selected bidder.

In terms of provisions of Clause 1.6.2.1 (6) of RFP document please find attached copy of unexecuted finalized Transmission Service Agreement after incorporating amendments issued till date of the subject project.

Thanking you,

Yours faithfully,

(P S Hariharan)

for Chief General Manager (Tech)

**Encl.: As above**

**STANDARD  
TRANSMISSION SERVICE AGREEMENT  
  
FOR  
  
DEVELOPMENT AND OPERATION OF INTER-  
STATE TRANSMISSION SYSTEM  
  
FOR TRANSMISSION OF ELECTRICITY  
THROUGH TARIFF BASED COMPETITIVE  
BIDDING FOR  
  
TRANSMISSION SYSTEM FOR  
“WESTERN REGION EXPANSION SCHEME  
XXXIII (WRES-XXXIII): PART C”.  
  
BETWEEN THE  
CENTRAL TRANSMISSION UTILITY OF INDIA  
LIMITED  
(NODAL AGENCY)  
  
AND  
  
Ishanagar Power Transmission Limited**

**22.05.2023**

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**THIS TRANSMISISON SERVICE AGREEMENT** (hereinafter referred to as “TSA” or “Agreement” or “the Agreement” or “this Agreement”) is made on the ..... [Insert day] of..... [Insert month] of Two Thousand and..... [Insert Year]

**BETWEEN:**

The .....[Insert name and registered address of Nodal Agency for the project], acting as a Nodal Agency (referred to as the “Nodal Agency”), which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the one part;

**AND**

..... [Insert Name of the Transmission Service Provider], incorporated under the Companies Act, 1956/ Companies Act, 2013 (as the case may be), having its registered office at ..... (herein after referred to as “Transmission Service Provider” or “TSP” or “ISTS Licensee”, which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the other part;

**(“Nodal Agency” and “TSP” are individually referred to as “Party” and collectively as the “Parties”)**

**AND WHEREAS:**

- A) In accordance with the Bidding Guidelines, the Bid Process Coordinator (hereinafter referred to as BPC) had initiated a competitive e-reverse bidding process through issue of RFP for selecting a Successful Bidder to build, own, operate and transfer the Project comprising of the Elements mentioned in Schedule 1 (hereinafter referred to as the Project)
- B) Pursuant to the said e-reverse bidding process, the BPC has identified the Successful Bidder, who will be responsible to set up the Project on build, own, operate and transfer basis to provide Transmission Service in accordance with the terms of this Agreement and the Transmission License.

- C) The Selected Bidder have submitted the Contract Performance Guarantee and acquired one hundred percent (100%) of the equity shareholding of Ishanagar Power Transmission Limited, along with all its related assets and liabilities in terms of the provisions of the Share Purchase Agreement.
- D) The TSP has agreed to make an application for a Transmission License to the Commission for setting up the Project on build, own, operate and transfer basis.
- E) The TSP has further agreed to make an application to the Commission for the adoption of the Transmission Charges under Section 63 of the Electricity Act, 2003, along with a certification from the Bid Evaluation Committee in accordance with the Bidding Guidelines issued by Ministry of Power, Government of India.
- F) The TSP has agreed to execute the agreement(s) required, if any, under Sharing Regulations within fifteen (15) days from the date of grant of Transmission License from the Commission.
- G) The TSP agrees to the terms and conditions laid down under Sharing Regulations, for making available the ISTS and charge the Transmission Charges in accordance with the terms and conditions of Sharing Regulations.
- H) The billing, collection and disbursement of the Transmission Charges by the CTU to the ISTS Licensee shall be governed as per Sharing Regulations.
- I) The terms and conditions stipulated in the Transmission License issued by the Commission to the TSP shall be applicable to this Agreement and the TSP agrees to comply with these terms and conditions. In case of inconsistency between the Transmission License terms & conditions and the conditions of this Agreement, the conditions stipulated in the Transmission License granted by the Commission shall prevail.

**NOW, THEREFORE, IN CONSIDERATION OF THE PREMISES AND MUTUAL AGREEMENTS, COVENANTS AND CONDITIONS SET FORTH HEREIN, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:**



## ARTICLE: 1

### 1 Definitions and Interpretations

#### 1.1 Definitions:

- 1.1.1 The words / expressions used in this Agreement, unless as defined below or repugnant to the context, shall have the same meaning as assigned to them by the Electricity Act, 2003 and the rules or regulations framed there under including those issued / framed by the Commission (as defined hereunder), as amended or re-enacted from time to time or the General Clauses Act, failing which it shall bear its ordinary English meaning.

The words/expressions when used in this Agreement shall have the respective meanings as specified below:

**“Acquisition Price”** shall have the same meaning as defined in the Share Purchase Agreement;

**“Act” or “Electricity Act” or “Electricity Act 2003”** shall mean the Electricity Act, 2003 and any amendments made to the same or any succeeding enactment thereof;

**“Affiliate”** shall mean a company that either directly or indirectly

- i. controls or
- ii. is controlled by or
- iii. is under common control with

a Bidding Company (in the case of a single company) or a Member (in the case of a Consortium) and **“control”** means ownership by one entity of at least twenty six percent (26%) of the voting rights of the other entity;

**“Availability”** in relation to the Project or in relation to any Element of the Project, for a given period shall mean the time in hours during that period the Project is capable to transmit electricity at its Rated Voltage and shall be expressed in percentage of total hours in the given period and shall be calculated as per the procedure contained in Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, attached herewith in Schedule 6;

**“Bid”** shall mean technical bid and financial bid submitted by the Bidder, in response to the RFP, in accordance with the terms and conditions of the RFP;

**“Bid Deadline”** shall mean the last date and time for submission of the Bid in response to RFP, as specified in the RFP;

**“Bidding Company”** shall refer to such single company that has made a Response to RFP for the Project;

**“Bidding Consortium / Consortium”** shall refer to a group of companies that has collectively made a Response to RFP for the Project;

**“Bid Documents”** or **“Bidding Documents”** shall mean the RFP, along with all attachments thereto or clarifications thereof;

**“Bidding Guidelines”** shall mean the “Tariff Based Competitive Bidding Guidelines for Transmission Service” and “Guidelines for Encouraging Competition in Development of Transmission Projects” issued by Government of India, Ministry of Power under Section – 63 of the Electricity Act as amended from time to time;

**“Bid Process Coordinator”** or **“BPC”** shall mean a person or its authorized representative as notified by the Government of India, responsible for carrying out the process for selection of Bidder who will acquire Transmission Service Provider;

**“Bill”** shall mean any bill raised by the CTU on the DICs to recover the Transmission Charges pursuant to the Sharing Regulations;

**“Business Day”** shall mean a day other than Sunday or a statutory holiday, on which the banks remain open for business in the State in which the Nodal Agency’s registered office is located and the concerned TSP are located;

**“CEA”** shall mean the Central Electricity Authority constituted under Section -70 of the Electricity Act;

**“Change in law”** shall have the meaning ascribed thereto in Article 12;

**“Commercial Operation Date”** or **“COD”** shall mean the date as per Article 6.2;

**“Commission”** or **“CERC”** shall mean the Central Electricity Regulatory Commission referred to in sub-section (1) of Section 76 of the Electricity Act, 2003 or its successors and assigns;

**“Competent Court of Law”** shall mean the Supreme Court or any High Court, or any tribunal or any similar judicial or quasi-judicial body in India that has jurisdiction to adjudicate upon issues relating to the Project;

**“Connection Agreement”** shall mean the agreement between the CTU or STU or any other concerned parties and the TSP, setting out the terms relating to the connection of the Project to the Inter-connection Facilities and use of the Inter State Transmission System as per the provisions of the IEGC, as the case may be;

**“Consultation Period”** shall mean the period of sixty (60) days or such longer period as the Parties may agree, commencing from the date of issue of a TSP’s Preliminary Notice or a Nodal Agency’s Preliminary Termination Notice, as provided in Article 13 of this Agreement, for consultation between the Parties to mitigate the consequence of the relevant event having regard to all the circumstances;

**“Consents, Clearances and Permits”** shall mean all authorizations, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements, or concessions required to be obtained from or provided by any concerned authority for the development, execution and operation of Project including without any limitation for the construction, ownership, operation and maintenance of the Transmission Lines and/or sub-stations;

**“Construction Period”** shall mean the period from (and including) the Effective Date of the Transmission Service Agreement up to (but not including) the COD of the Element of the Project in relation to an Element and up to (but not including) the COD of the Project in relation to the Project;

**“Contractors”** shall mean the engineering, procurement, construction, operation & maintenance contractors, surveyors, advisors, consultants, designers, suppliers to the TSP and each of their respective sub-contractors (and each of their respective successors and permitted assigns) in their respective capacities as such;

**“Contract Performance Guarantee”** shall mean the irrevocable unconditional bank guarantee, submitted and to be submitted by the TSP or by the Selected Bidder on behalf of the TSP to the Nodal Agency from a bank mentioned in Annexure 17 of the RFP, in the form attached here to as Schedule 8, in accordance with Article 3 of this Agreement and which shall include the additional bank guarantee furnished by the TSP under this Agreement;

**“Contract Year”**, for the purpose of payment of Transmission Charges, shall mean the period beginning on the COD, and ending on the immediately succeeding March 31 and thereafter each period of 12 months beginning on April 1 and ending on March 31 provided that the last Contract Year shall end on the last day of the term of the TSA;

**“CTU” or “Central Transmission Utility”** shall have same meaning as defined in the Electricity Act, 2003;

**“Day”** shall mean a day starting at 0000 hours and ending at 2400 hours;

**“D/C”** shall mean Double Circuit;

**“Designated ISTS Customers”** or **“DICs”** shall have the meaning as ascribed in the Sharing Regulations;

**“Dispute”** shall mean any dispute or difference of any kind between the Parties, in connection with or arising out of this Agreement including any issue on the interpretation and scope of the terms of this Agreement as provided in Article 16;

**“Effective Date”** for the purposes of this Agreement, shall have the same meaning as per Article 2.1 of this Agreement;

**“Electrical Inspector”** shall mean a person appointed as such by the Government under sub-section (1) of Section 162 of the Electricity Act 2003 and also includes Chief Electrical Inspector;

**“Electricity Rules 2005”** shall mean the rules framed pursuant to the Electricity Act 2003 and as amended from time to time;

**“Element”** shall mean each Transmission Line or each circuit of the Transmission Lines (where there are more than one circuit) or each bay of Sub-station or switching station or HVDC terminal or inverter station of the Project, including ICTs, Reactors, SVC, FSC, etc. forming part of the ISTS, which will be owned, operated and maintained by the concerned ISTS Licensee, and which has a separate Scheduled COD as per Schedule 2 of this Agreement and has a separate percentage for recovery of Transmission Charges on achieving COD as per Schedule 5 of this Agreement;

**“Event of Default”** shall mean the events as defined in Article 13 of this Agreement;

**“Expiry Date”** shall be the date which is thirty five (35) years from the COD of the Project;

**“Financial Closure”** shall mean the first Business Day on which funds are made available to the TSP pursuant to the Financing Agreements;

**“Financially Evaluated Entity”** shall mean the company which has been evaluated for the satisfaction of the financial requirement set forth in the RFP;

**“Financing Agreements”** shall mean the agreements pursuant to which the TSP is to finance the Project including the loan agreements, security documents, notes, indentures, security agreements, letters of credit and other documents, as may be amended, modified, or replaced from time to time, but without in anyway increasing the liabilities of the Designated ISTS Customers / Nodal Agency;

**“Financial Year”** shall mean a period of twelve months at midnight Indian Standard Time (IST) between 1st April & 31st March;

**“Force Majeure”** and **“Force Majeure Event”** shall have the meaning assigned thereto in Article 11;

**“GOI”** shall mean Government of India;

**“Grid Code”** / **“IEGC”** shall mean the Grid Code specified by the Central Commission under Clause (h) of sub-section (1) of Section 79 of the Electricity Act;

**“Independent Engineer”** shall mean an agency/ company, appointed by Nodal Agency in accordance with the Guidelines for Encouraging Competition in Development of Transmission Projects.

**“Indian Governmental Instrumentality”** shall mean Government of India, Government of any State in India or any ministry, department, board, authority, agency, corporation, commission under the direct or indirect control of Government of India or any State Government or both, any political sub-division of any of them including any court or Commission or tribunal or judicial or quasi-judicial body in India but excluding the CTU, TSP and the Designated ISTS Customers;

**“Insurances”** shall mean the insurance cover to be obtained and maintained by the TSP in accordance with Article 9 of this Agreement;

**“Interconnection Facilities”** shall mean the facilities as may be set up for transmission of electricity through the use of the Project, on either one or both side of generating station’s / CTU’s / STU’s / ISTS Licensee’s / Designated ISTS Customer’s substations (as the case may be) which shall include, without limitation, all other transmission lines, gantries, sub-stations and associated equipments not forming part of the Project;

**“ISTS Licensee”** shall be the TSP under this Agreement, consequent to having been awarded a Transmission License by the CERC and shall be referred to as the TSP or the ISTS Licensee, as the context may require in this Agreement;

**“Law” or “Laws”** in relation to this Agreement, shall mean all laws including electricity laws in force in India and any statute, ordinance, rule, regulation, notification, order or code, or any interpretation of any of them by an Indian Governmental Instrumentality having force of law and shall include all rules, regulations, decisions and orders of the Commission;

**“Lead Member of the Bidding Consortium” or “Lead Member”** shall mean a company who commits at least 26% equity stake in the Project, meets the technical requirement as specified in the RFP and so designated by other Member(s) in Bidding Consortium;

**“Lenders”** means the banks, financial institutions, multilateral funding agencies, non banking financial companies registered with the Reserve Bank of India (RBI), insurance companies registered with the Insurance Regulatory & Development Authority (IRDA), pension funds regulated by the Pension Fund Regulatory & Development Authority (PFRDA), mutual funds registered with Securities & Exchange Board of India (SEBI), etc., including their successors and assigns, who have agreed on or before COD of the Project to provide the TSP with the debt financing described in the capital structure schedule, and any successor banks or financial institutions to whom their interests under the Financing Agreements may be transferred or assigned;

Provided that, such assignment or transfer shall not relieve the TSP of its obligations to the Nodal Agency under this Agreement in any manner and shall also does not lead to an increase in the liability of the Nodal Agency;

**“Lenders Representative”** shall mean the person notified by the Lender(s) in writing as being the representative of the Lender(s) or the Security Trustee and such person may from time to time be replaced by the Lender(s) pursuant to the Financing Agreements by written notice to the TSP;

**“Letter of Intent”** or **“LOI”** shall have the same meaning as in the RFP;

**“Member in a Bidding Consortium / Member”** shall mean each company in the Bidding Consortium;

**“Month”** shall mean a period of thirty (30) days from (and excluding) the date of the event;

**“Monthly Transmission Charges”** for any Element of the Project, after COD of the Element till COD of the Project, and for the Project after COD of the Project, shall mean the amount of Transmission Charges as specified in Schedule 5 of this Agreement multiplied by no. of days in the relevant month and divided by no. of days in the year;

**“National Load Despatch Centre”** shall mean the centre established as per sub-section (1) of Section 26 of the Electricity Act 2003;

**“Nodal Agency”** shall mean CTU, which shall execute and implement the Transmission Service Agreement (TSA);

Provided that while taking major decisions, CTU shall consult CEA on technical matters and any other matter it feels necessary.

**“Notification”** shall mean any notification, issued in the Gazette of India;

**“Operating Period”** for any Element of the Project shall mean the period from (and including) the COD of such Element of the Project, up to (and including) the Expiry Date and for the Project, shall mean the period from (and including) the COD of the Project, up to (and including) the Expiry Date;

**“Parent Company”** shall mean an entity that holds at least twenty six percent (26%) of the paid - up equity capital directly or indirectly in the Bidding Company or in the Member in a Bidding Consortium, as the case may be;

**“Preliminary Termination Notice”** shall mean a Nodal Agency’s Preliminary Termination Notice as defined in Article 13 of this Agreement;

**“Project”** shall mean Transmission System for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”**, as detailed in Schedule 1 of this Agreement;

**“Project Assets”** shall mean all physical and other assets relating to and forming part of the Project including:

- (a) rights over the Site for substations, ROW for transmission lines;
- (b) tangible & intangible assets such as civil works and equipment including foundations, embankments, pavements, electrical systems, communication systems, relief centres, administrative offices, Sub-stations, software, tower and sub-stations designs etc;
- (c) project facilities situated on the Site;
- (d) all rights of the TSP under the project agreements;
- (e) financial assets, such as receivables, security deposits etc;
- (f) insurance proceeds; and
- (g) Applicable Permits and authorisations relating to or in respect of the Transmission System;”

**“Project Execution Plan”** shall mean the plan referred to in Article 3.1.3(c) hereof;

**“Prudent Utility Practices”** shall mean the practices, methods and standards that are generally accepted internationally from time to time by electric transmission utilities for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation, repair and maintenance of the Project and which practices, methods and standards shall be adjusted as necessary, to take account of:

- (i) operation, repair and maintenance guidelines given by the manufacturers to be incorporated in the Project,
- (ii) the requirements of Law, and
- (iii) the physical conditions at the Site;
- (iv) the safety of operating personnel and human beings;

**“Rated Voltage”** shall mean voltage at which the Transmission System is designed to operate or such lower voltage at which the line is charged, for the time being, in consultation with the Central Transmission Utility;

**“Rebate”** shall have the meaning as ascribed to in Article 10.3 of this Agreement;

**“RFP”** shall mean Request for Proposal dated 22.05.2023 along with all schedules, annexures and RFP Project Documents attached thereto, issued by the BPC for tariff based competitive bidding process for selection of Bidder as TSP to execute the Project, including any modifications, amendments or alterations thereto;

**“RFP Project Documents”** shall mean the following documents to be entered into in respect of the Project, by the Parties to the respective agreements:

- a. Transmission Service Agreement,
- b. Share Purchase Agreement,
- c. Agreement(s) required under Sharing Regulations and
- d. Any other agreement as may be required;

**“RLDC”** shall mean the relevant Regional Load Dispatch Centre as defined in the Electricity Act, 2003, in the region(s) in which the Project is located;

**“RPC”** shall mean the relevant Regional Power Committee established by the Government of India for the specific Region(s) in accordance with the Electricity Act, 2003 for facilitating integrated operation of the Power System in that Region;

**“Scheduled COD”** in relation to an Element(s) shall mean the date(s) as mentioned in Schedule 2 as against such Element(s) and in relation to the Project, shall mean the date as mentioned in Schedule 2 as against such Project, subject to the provisions of Article 4.4 of this Agreement, or such date as may be mutually agreed among the Parties;

**“Scheduled Outage”** shall mean the final outage plan as approved by the RPC as per the provisions of the Grid Code;



**“Selected Bid”** shall mean the technical Bid and the Final Offer of the Selected Bidder submitted during e-reverse bidding, which shall be downloaded and attached in Schedule 7 on or prior to the Effective Date;

**“Share Purchase Agreement”** shall mean the agreement amongst REC Power Development and Consultancy Limited, Ishanagar Power Transmission Limited and the Successful Bidder for the purchase of one hundred (100%) per cent of the shareholding of the Ishanagar Power Transmission Limited for the Acquisition Price, by the Successful Bidder on the terms and conditions as contained therein;

**“Sharing Regulations”** shall mean the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 and as amended from time to time;

**“Site”** in relation to a substation, switching station or HVDC terminal or inverter station, shall mean the land and other places upon which such station / terminal is to be established;

**“SLDC”** shall mean the State Load Despatch Centre established as per sub-section (1) of Section 31 of the Electricity Act 2003;

**“STU” or “State Transmission Utility”** shall be the Board or the Government company, specified as such by the State Government under sub-section (1) of Section 39 of the Electricity Act 2003;

**“Successful Bidder” or “Selected Bidder”** shall mean the Bidder selected pursuant to the RFP and who has to acquire one hundred percent (100%) equity shares of Ishanagar Power Transmission Limited, along with all its related assets and liabilities, which will be responsible as the TSP to establish the Project on build, own, operate and transfer basis as per the terms of the TSA and other RFP Project Documents;

**“TSP’s Preliminary Notice”** shall mean a notice issued by the TSP in pursuant to the provisions of Article 13.3 of this Agreement;

**“Target Availability”** shall have the meaning as ascribed hereto in Article 8.2 of this Agreement;

**“Technically Evaluated Entity”** shall mean the company which has been evaluated for the satisfaction of the technical requirement set forth in RFP;

**“Termination Notice”** shall mean a Nodal Agency’s Termination Notice given by the Nodal Agency to the TSP pursuant to the provisions of Articles 3.3.2, 3.3.4, 4.4.2, 5.8, 13.2 and 13.3 of this Agreement for the termination of this Agreement;

**“Term of Agreement”** for the purposes of this Agreement shall have the meaning ascribed thereto in Article 2.2 of this Agreement;

**“Transmission Charges”** shall mean the Final Offer of the Selected Bidder during the e-reverse bidding and adopted by the Commission, payable to the TSP as per Sharing Regulations;

**“Transmission License”** shall mean the license granted by the Commission in terms of the relevant regulations for grant of such license issued under the Electricity Act;

**“Transmission Service”** shall mean making the Project available as per the terms and conditions of this Agreement and Sharing Regulations;

**“Unscheduled Outage”** shall mean an interruption resulting in reduction of the Availability of the Element(s) / Project (as the case may be) that is not a result of a Scheduled Outage or a Force Majeure Event.

**“Ultimate Parent Company”** shall mean an entity which owns at least twenty six percent (26%) equity in the Bidding Company or Member of a Consortium, (as the case may be) and in the Technically Evaluated Entity and / or Financially Evaluated Entity (as the case may be) and such Bidding Company or Member of a Consortium, (as the case may be) and the Technically Evaluated Entity and / or Financially Evaluated Entity (as the case may be) shall be under the direct control or indirectly under the common control of such entity;

## 1.2 Interpretation:

*Save where the contrary is indicated, any reference in this Agreement to:*

**“Agreement”** shall be construed as including a reference to its Schedules, Appendices and Annexures;

**“Rupee”, “Rupees” and “Rs.”** shall denote lawful currency of India;

**“crore”** shall mean a reference to ten million (10,000,000) and a **“lakh”** shall mean a reference to one tenth of a million (1,00,000);

**“encumbrance”** shall be construed as a reference to a mortgage, charge, pledge, lien or other encumbrance securing any obligation of any person or any other type of preferential arrangement (including, without limitation, title transfer and retention arrangements) having a similar effect;

**“holding company”** of a company or corporation shall be construed as a reference to any company or corporation of which the other company or corporation is a subsidiary;

**"indebtedness"** shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;

**"person"** shall have the meaning as defined in Section 2 (49) of the Act;

**"subsidiary"** of a company or corporation (the holding company) shall be construed as a reference to any company or corporation:

- (i) which is controlled, directly or indirectly, by the holding company, or
- (ii) more than half of the issued share capital of which is beneficially owned, directly or indirectly, by the holding company, or
- (iii) which is a subsidiary of another subsidiary of the holding company,

for these purposes, a company or corporation shall be treated as being controlled by another if that other company or corporation is able to direct its affairs and/or to control the composition of its board of directors or equivalent body;

**"winding-up", "dissolution", "insolvency", or "reorganization"** in the context of a company or corporation shall have the same meaning as defined in the Companies Act, 1956/ Companies Act, 2013 (as the case may be).

- 1.2.1 Words importing the singular shall include the plural and vice versa.
- 1.2.2 This Agreement itself or any other agreement or document shall be construed as a reference to this or to such other agreement or document as it may have been, or may from time to time be, amended, varied, novated, replaced or supplemented.
- 1.2.3 A Law shall be construed as a reference to such Law including its amendments or re-enactments from time to time.
- 1.2.4 A time of day shall, save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
- 1.2.5 Different parts of this Agreement are to be taken as mutually explanatory and supplementary to each other and if there is any inconsistency between or among the parts of this Agreement, they shall be interpreted in a harmonious manner so as to give effect to each part.
- 1.2.6 The tables of contents and any headings or sub-headings in this Agreement have been inserted for ease of reference only and shall not affect the interpretation of this Agreement.

- 1.2.7 All interest payable under this Agreement shall accrue from day to day and be calculated on the basis of a year of three hundred and sixty five (365) days.
- 1.2.8 The words “hereof” or “herein”, if and when used in this Agreement shall mean a reference to this Agreement.
- 1.2.9 The contents of Schedule 7 shall be referred to for ascertaining accuracy and correctness of the representations made by the Selected Bidder in Article 17.2.1 hereof.

## ARTICLE: 2

### 2 Effectiveness and Term of Agreement

#### 2.1 Effective Date:

This Agreement shall be effective from later of the dates of the following events:

- a. The Selected Bidder, on behalf of the TSP, has provided the Contract Performance Guarantee, as per terms of Article 3.1 of this Agreement; and
- b. The Selected Bidder has acquired for the Acquisition Price, one hundred percent (100%) of the equity shareholding of REC Power Development and Consultancy Limited in Ishanagar Power Transmission Limited along with all its related assets and liabilities as per the provisions of the Share Purchase Agreement. and
- c. The Agreement is executed and delivered by the Parties;

#### 2.2 Term and Termination:

- 2.2.1 Subject to Article 2.2.3 and Article 2.4, this Agreement shall continue to be effective in relation to the Project until the Expiry Date, when it shall automatically terminate.
- 2.2.2 Post the Expiry Date of this Agreement, the TSP shall ensure transfer of Project Assets to CTU or its successors or an agency as decided by the Central Government at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days of expiry of this Agreement failing which CTU shall be entitled to take over the Project Assets Suo moto.
- 2.2.3 This Agreement shall terminate before the Expiry Date in accordance with Article 13 or Article 3.3.2 or Article 3.3.4.

#### 2.3 Conditions prior to the expiry of the Transmission License

- 2.3.1 In order to continue the Project beyond the expiry of the Transmission License, the TSP shall be obligated to make an application to the Commission at least two (2) years before the date of expiry of the Transmission License, seeking the Commission's approval for the extension of the term of the Transmission License up to the Expiry Date.

- 2.3.2 The TSP shall timely comply with all the requirements that may be laid down by the Commission for extension of the term of the Transmission License beyond the initial term of twenty-five (25) years & upto the Expiry Date and the TSP shall keep the Nodal Agency fully informed about the progress on its application for extension of the term of the Transmission License.

**2.4 Survival:**

The expiry or termination of this Agreement shall not affect any accrued rights, obligations/ roles and liabilities of the Parties under this Agreement, including the right to receive liquidated damages as per the terms of this Agreement, nor shall it effect the survival of any continuing obligations/ roles for which this Agreement provides, either expressly or by necessary implication, which are to survive after the Expiry Date or termination including those under Articles 3.3.3, 3.3.5, Article 9.3 (Application of Insurance Proceeds), Article 11 (Force Majeure), Article 13 (Events of Default and Termination), Article 14 (Liability & Indemnification), Article 16 (Governing Law & Dispute Resolution), Article 19 (Miscellaneous).

**2.5 Applicability of the provisions of this Agreement**

- 2.5.1 For the purpose of Availability, Target Availability and the computation of Availability, Incentive, Penalty, the provisions provided in this Agreement shall apply and any future modifications in the relevant Rules and Regulations shall not be applicable for this Project.
- 2.5.2 For the purposes of this Agreement for ISTS systems developed under the tariff based competitive bidding framework, the provisions relating to the definitions (Availability and COD), Article 3 (Contract Performance Guarantee and Conditions Subsequent), Article 5 (Construction of the Project), Article 6 (Connection and Commissioning of the Project), Article 8 (Target Availability and calculation of Availability), Article 11 (Force Majeure), Article 12 (Change in Law), Article 13 (Event of Default), Article 14 (Indemnification), Article 15 (Assignment and Charges), Articles 16.1, 16.2 and 16.4 (Governing Laws and Dispute Resolution) and Article 17 (representation and warranties of the ISTS Licensee) of this agreement shall supersede the corresponding provisions under Sharing Regulations.

**ARTICLE: 3****3 Conditions Subsequent****3.1 Satisfaction of conditions subsequent by the TSP**

3.1.1 Within ten (10) days from the date of issue of Letter of Intent, the Selected Bidder, shall:

- a. Provide the Contract Performance Guarantee, and
- b. Acquire, for the Acquisition Price, one hundred percent (100%) equity shareholding of Ishanagar Power Transmission Limited from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of Ishanagar Power Transmission Limited, along with all its related assets and liabilities.
- c. Execute this Agreement;

The TSP shall, within five (5) working days from the date of acquisition of SPV by the Selected Bidder, undertake to apply to the Commission for the grant of Transmission License and for the adoption of tariff as required under section-63 of the Electricity Act.

The Selected Bidder, on behalf of the TSP, will provide to the Central Transmission Utility of India Limited (being the Nodal Agency) the Contract Performance Guarantee for an amount of Rs. 22.00 Crore (Rupees Twenty-Two Crore only).

3.1.2 The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the COD of the Project. In case the validity of the Contract Performance Guarantee is expiring before the validity specified in this Article, the TSP shall, at least thirty (30) days before the expiry of the Contract Performance Guarantee, replace the Contract Performance Guarantee with another Contract Performance Guarantee or extend the validity of the existing Contract Performance Guarantee until the validity period specified in this Article.

3.1.3 The TSP agrees and undertakes to duly perform and complete the following activities within six (6) months from the Effective Date (except for c) below), unless such completion is affected due to any Force Majeure Event, or if any of the activities is specifically waived in writing by the Nodal Agency:

- a. To obtain the Transmission License for the Project from the Commission;

- b. To obtain the order for adoption of Transmission Charges by the Commission, as required under Section 63 of the Electricity Act 2003;
- c. To submit to the Nodal Agency, CEA & Independent Engineer, the Project Execution Plan, immediately after award of contract(s) and maximum within one hundred and twenty (120) days from the Effective Date. Also, an approved copy each of Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) would be submitted to Independent Engineer & Nodal Agency in the same time period. The TSP's Project Execution Plan should be in conformity with the Scheduled COD as specified in Schedule 2 of this Agreement, and shall bring out clearly the organization structure, time plan and methodology for executing the Project, award of major contracts, designing, engineering, procurement, shipping, construction, testing and commissioning to commercial operation;
- d. To submit to the Nodal Agency, CEA & Independent Engineer a detailed bar (GANTT) chart of the Project outlining each activity (taking longer than one Month), linkages as well as durations;
- e. To submit to the Nodal Agency, CEA & Independent Engineer detailed specifications of conductor meeting the functional specifications specified in RFP;
- f. To achieve Financial Closure;
- g. To provide an irrevocable letter to the Lenders duly accepting and acknowledging the rights provided to the Lenders under the provisions of Article 15.3 of this Agreement and all other RFP Project Documents;
- h. To award the Engineering, Procurement and Construction contract ("EPC contract") for the design and construction of the Project and shall have given to such Contractor an irrevocable notice to proceed; and
- i. To sign the Agreement(s) required, if any, under Sharing Regulations.

### **3.2 Recognition of Lenders' Rights by the Nodal Agency**

- 3.2.1 The Nodal Agency hereby accepts and acknowledges the rights provided to the Lenders as per Article 15.3 of this Agreement and all other RFP Project Documents.

### **3.3 Consequences of non-fulfilment of conditions subsequent**

- 3.3.1 If any of the conditions specified in Article 3.1.3 is not duly fulfilled by the TSP



even within three (3) Months after the time specified therein, then on and from the expiry of such period and until the TSP has satisfied all the conditions specified in Article 3.1.3, the TSP shall, on a monthly basis, be liable to furnish to Central Transmission Utility of India Limited (being the Nodal Agency) additional Contract Performance Guarantee of Rupees Two Crore and Twenty Lakh Only (Rs. 2.20 Crore) within two (2) Business Days of expiry of every such Month. Such additional Contract Performance Guarantee shall be provided to Central Transmission Utility of India Limited (being the Nodal Agency) in the manner provided in Article 3.1.1 and shall become part of the Contract Performance Guarantee and all the provisions of this Agreement shall be construed accordingly. Central Transmission Utility of India Limited (being the Nodal Agency) shall be entitled to hold and / or invoke the Contract Performance Guarantee, including such additional Contract Performance Guarantee, in accordance with the provisions of this Agreement.

**3.3.2** Subject to Article 3.3.4, if:

- (i) the fulfilment of any of the conditions specified in Article 3.1.3 is delayed beyond nine (9) Months from the Effective Date and the TSP fails to furnish additional Contract Performance Guarantee to the Nodal Agency in accordance with Article 3.3.1 hereof; or
- (ii) the TSP furnishes additional Performance Guarantee to the Nodal Agency in accordance with Article 3.3.1 hereof but fails to fulfil the conditions specified in Article 3.1.3 within a period of twelve (12) months from the Effective Date,

the Nodal Agency shall have the right to terminate this Agreement, by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.

**3.3.3** If the Nodal Agency elects to terminate this Agreement as per the provisions of Article 3.3.2, the TSP shall be liable to pay to the Nodal Agency an amount of Rs. 22.00 Crore (Rupees Twenty-Two Crore only) as liquidated damages. The Nodal Agency shall be entitled to recover this amount of damages by invoking the Contract Performance Guarantee to the extent of liquidated damages, which shall be required by the Nodal Agency, and the balance shall be returned to TSP, if any.

It is clarified for removal of doubt that this Article shall survive the termination of this Agreement.

**3.3.4** In case of inability of the TSP to fulfil the conditions specified in Article 3.1.3

due to any Force Majeure Event, the time period for fulfilment of the condition subsequent as mentioned in Article 3.1.3, may be extended for a period of such Force Majeure Event. Alternatively, if deemed necessary, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement and the Contract Performance Guarantee shall be returned as per the provisions of Article 6.5.1.

Provided, that due to the provisions of this Article 3.3.4, any increase in the time period for completion of conditions subsequent mentioned under Article 3.1.3, shall lead to an equal increase in the time period for the Scheduled COD. If the Scheduled COD is extended beyond a period of one hundred eighty (180) days due to the provisions of this Article 3.3.4, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9.

- 3.3.5 Upon termination of this Agreement as per Articles 3.3.2 and 3.3.4, the Nodal Agency may take steps to bid out the Project again.
- 3.3.6 The Nodal agency, on the failure of the TSP to fulfil its obligations, if it considers that there are sufficient grounds for so doing, apart from invoking the Contract Performance Guarantee under para 3.3.3 may also initiate proceedings for blacklisting the TSP as per provisions of Article 13.2 of TSA.

### **3.4 Progress Reports**

The TSP shall notify the Nodal Agency and CEA in writing at least once a Month on the progress made in satisfying the conditions subsequent in Articles 3.1.3.

**ARTICLE: 4****4 Development of the Project****4.1 TSP's obligations in development of the Project:**

Subject to the terms and conditions of this Agreement, the TSP at its own cost and expense shall observe, comply with, perform, undertake and be responsible:

- a. for procuring and maintaining in full force and effect all Consents, Clearances and Permits, required in accordance with Law for development of the Project;
- b. for financing, constructing, owning and commissioning each of the Element of the Project for the scope of work set out in Schedule 1 of this Agreement in accordance with:

- i. the Electricity Act and the Rules made thereof;
- ii. the Grid Code;
- iii. the CEA Regulations applicable, and as amended from time to time, for Transmission Lines and sub-stations:
  - the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007;
  - Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulation, 2010;
  - Central Electricity Authority (Grid Standard) Regulations, 2010;
  - Central Electricity Authority (Safety requirements for construction, operation and maintenance of Electrical Plants and Electrical Lines) Regulation, 2011;
  - Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulation, 2010;
  - Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020.
- iv. Safety/ security Guidelines laid down by the Government;
- v. Prudent Utility Practices, relevant Indian Standards and the Law;

## Transmission Service Agreement

not later than the Scheduled COD as per Schedule 2 of this Agreement;

- c. for entering into a Connection Agreement with the concerned parties in accordance with the Grid Code.
- d. for owning the Project throughout the term of this Agreement free and clear of any encumbrances except those expressly permitted under Article 15 of this Agreement;
- e. to co-ordinate and liaise with concerned agencies and provide on a timely basis relevant information with regard to the specifications of the Project that may be required for interconnecting the Project with the Interconnection Facilities;
- f. for providing all assistance to the Arbitrators as they may require for the performance of their duties and responsibilities;
- g. to provide to the Nodal Agency and CEA, on a monthly basis, progress reports with regard to the Project and its execution (in accordance with prescribed form) to enable the CEA to monitor and co-ordinate the development of the Project matching with the Interconnection Facilities;
- h. to comply with Ministry of Power order no. 25-11/6/2018 – PG dated 02.07.2020 as well as other Guidelines issued by Govt. of India pertaining to this;
- i. to procure the products associated with the Transmission System as per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. 11/5/2018 - Coord. dated 28.07.2020 for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard (Procuring Entity as defined in above orders shall deemed to have included Selected Bidder and/ or TSP).

Also, to comply with Department of Expenditure, Ministry of Finance vide Order (Public Procurement No 1) bearing File No. 6/18/2019-PPD dated 23.07.2020, Order (Public Procurement No 2) bearing File No. 6/18/2019-PPD dated 23.07.2020 and Order (Public Procurement No. 3) bearing File No. 6/18/2019-PPD, dated 24.07.2020, as amended from time to time, regarding public procurement from a bidder of a country, which shares land border with India;

- j. to submit to Nodal Agency information in the prescribed format [To be devised by Nodal Agency] for ensuring compliance to Article 4.1 i) above.

- k. to comply with all its obligations undertaken in this Agreement.

#### **4.2 Roles of the Nodal Agency in implementation of the Project:**

4.2.1 Subject to the terms and conditions of this Agreement, the Nodal Agency shall be the holder and administrator of this Agreement and shall inter alia:

- a. appoint an Independent Engineer within 90 days of the Effective Date
- b. provide letters of recommendation to the concerned Indian Governmental Instrumentality, as may be requested by the TSP from time to time, for obtaining the Consents, Clearances and Permits required for the Project;
- c. coordinate among TSP and upstream/downstream entities in respect of Interconnection Facilities; and
- d. monitor the implementation of the Agreement and take appropriate action for breach thereof including revocation of guarantees, cancellation of Agreement, blacklisting etc
- e. provide all assistance to the Arbitrators as required for the performance of their duties and responsibilities; and
- f. perform any other responsibility (ies) as specified in this Agreement.

#### **4.3 Time for Commencement and Completion:**

- a. The TSP shall take all necessary steps to commence work on the Project from the Effective Date of the Agreement and shall achieve Scheduled COD of the Project in accordance with the time schedule specified in Schedule 2 of this Agreement;
- b. The COD of each Element of the Project shall occur no later than the Scheduled COD or within such extended time to which the TSP shall be entitled under Article 4.4 hereto.

#### **4.4 Extension of time:**

4.4.1 In the event that the TSP is unable to perform its obligations for the reasons solely attributable to the Nodal Agency, the Scheduled COD shall be extended, by a 'day to day' basis, subject to the provisions of Article 13.

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- 4.4.2 In the event that an Element or the Project cannot be commissioned by its Scheduled COD on account of any Force Majeure Event as per Article 11, the Scheduled COD shall be extended, by a 'day to day' basis for a period of such Force Majeure Event. Alternatively, if deemed necessary, the Nodal Agency may terminate the Agreement as per the provisions of Article 13.4 by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.
- 4.4.3 If the Parties have not agreed, within thirty (30) days after the affected Party's performance has ceased to be affected by the relevant circumstance, on how long the Scheduled COD should be deferred by, any Party may raise the Dispute to be resolved in accordance with Article 16.

#### **4.5 Metering Arrangements:**

- 4.5.1 The TSP shall comply with all the provisions of the IEGC and the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time, with regard to the metering arrangements for the Project. The TSP shall fully cooperate with the CTU / STU / RLDC and extend all necessary assistance in taking meter readings.

#### **4.6 Interconnection Facilities:**

- 4.6.1 Subject to the terms and conditions of this Agreement, the TSP shall be responsible for connecting the Project with the interconnection point(s) specified in Schedule 1 of this Agreement. The Interconnection Facilities shall be developed as per the scope of work and responsibilities assigned in Schedule 1 of this Agreement. The Nodal Agency shall be responsible for coordinating to make available the Interconnection Facilities.
- 4.6.2 In order to remove any doubts, it is made clear that the obligation of the TSP within the scope of the project is to construct the Project as per Schedule-1 of this Agreement and in particular to connect it to the Interconnection Facilities as specified in this Agreement.

**ARTICLE: 5****5 Construction of the Project****5.1 TSP's Construction Responsibilities:**

- 5.1.1 The TSP, at its own cost and expense, shall be responsible for designing, constructing, erecting, testing and commissioning each Element of the Project by the Scheduled COD in accordance with the Regulations and other applicable Laws specified in Article 4.1 of this Agreement.
- 5.1.2 The TSP acknowledges and agrees that it shall not be relieved from any of its obligations under this Agreement or be entitled to any extension of time or any compensation whatsoever by reason of the unsuitability of the Site or Transmission Line route(s).
- 5.1.3 The TSP shall be responsible for obtaining all Consents, Clearances and Permits related but not limited to road / rail / river / canal / power line / crossings, Power and Telecom Coordination Committee (PTCC), defence, civil aviation, right of way / way-leaves and environmental & forest clearances from relevant authorities required for developing, financing, constructing, maintaining/ renewing all such Consents, Clearances and Permits in order to carry out its obligations under this Agreement in general and shall furnish to the Nodal Agency such copy/ies of each Consents, Clearances and Permits, on demand. Nodal Agency shall provide letters of recommendation to the concerned Indian Governmental Instrumentality, as may be requested by the TSP from time to time, for obtaining the Consents, Clearances and Permits required for the Project.
- 5.1.4 The TSP shall be responsible for:
- (a) **[To be deleted by the BPC in case no land acquisition is involved in the Project and replaced by “deleted”]** acquisition of land for location specific substations, switching stations or HVDC terminal or inverter stations. Also, the actual location of Greenfield substations (Switching Stations or HVDC Terminal or Inverter Stations) for a generation pooling substation and for load serving substations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report. However, actual location of any Greenfield Intermediate Substations in the scope of TSP shall not be beyond 10 Km radius of the location proposed by the BPC in the Survey Report.

- (b) **[To be deleted by the BPC in case no land acquisition is involved in the Project and replaced by “deleted”]** final selection of Site including its geo-technical investigation;
- (c) survey and geo-technical investigation of line route in order to determine the final route of the Transmission Lines;
- (d) seeking access to the Site and other places where the Project is being executed, at its own risk and costs, including payment of any crop, tree compensation or any other compensation as may be required.

5.1.5 In case the Project involves any resettlement and rehabilitation, the resettlement and rehabilitation package will be implemented by the State Government authorities, for which the costs is to be borne by the TSP and no changes would be allowed in the Transmission Charges on account of any variation in the resettlement and rehabilitation cost. The TSP shall provide assistance on best endeavour basis, in implementation of the resettlement and rehabilitation package, if execution of such package is in the interest of expeditious implementation of the Project and is beneficial to the Project affected persons.

## **5.2 Appointing Contractors:**

- 5.2.1 The TSP shall conform to the requirements as provided in this Agreement while appointing Contractor(s) for procurement of goods & services.
- 5.2.2 The appointment of such Contractor(s) shall neither relieve the TSP of any of its obligations under this Agreement nor make the Nodal Agency liable for the performance of such Contractor(s).

## **5.3 Monthly Progress Reporting:**

The TSP shall provide to the CEA, Nodal Agency & Independent Engineer, on a monthly basis, progress reports along with likely completion date of each Element with regard to the Project and its execution (in accordance with prescribed form). The Nodal Agency/ CEA shall monitor the development of the Project for its timely completion for improving and augmenting the electricity system as a part of its statutory responsibility.

## **5.4 Quality of Workmanship:**

The TSP shall ensure that the Project is designed, built and completed in a good workmanship using sound engineering and construction practices, and using only materials and equipment that are new and manufactured as per the MQP and following approved FQP for erection, testing & commissioning and complying



with Indian /International Standards such that, the useful life of the Project will be at least thirty five (35) years from the COD of the Project.

The TSP shall ensure that all major substation equipment / component (e.g. transformers, reactors, Circuit Breakers, Instrument Transformers (IT), Surge Arresters (SA), Protection relays, clamps & connectors etc.), equipment in terminal stations of HVDC installations including Thyristor/ IGBT valves, Converter Transformers, smoothing reactors, Transformer bushings and wall bushings, GIS bus ducts, towers and gantry structures and transmission towers or poles and line materials (conductors, earthwire, OPGW, insulator, accessories for conductors, OPGW & earthwires, hardware fittings for insulators, aviation lights etc), facilities and system shall be designed, constructed and tested (Type test, Routine tests, Factory Acceptance Test (FAT)) in accordance with relevant CEA Regulations and Indian Standards. In case Indian Standards for any particular equipment/ system/ process is not available, IEC/ IEEE or equivalent International Standards and Codes shall be followed.

## **5.5 Progress Monitoring & Quality Assurance:**

- 5.5.1 The Project Execution Plan submitted by the TSP in accordance with Article 3.1.3 c) shall comprise of detailed schedule of all the equipments/items /materials required for the Project, right from procurement of raw material till the dispatch from works and receipt at the site. Further, it should also include various stages of the construction schedule up to the commissioning of the Project.
- 5.5.2 Nodal Agency, CEA & Independent Engineer shall have access at all reasonable times to the Site and to the Manufacturer's works and to all such places where the Project is being executed.
- 5.5.3 Independent Engineer shall ensure conformity of the conductor specifications with the functional specifications specified in RFP.
- 5.5.4 The Independent Engineer shall monitor the following during construction of the Project:
  - a) Quality of equipments, material, foundation, structures and workmanship etc. as laid down in Article 5.4 and 6.1.4 of the TSA. Specifically, quality of Sub-station equipments, transmission line material and workmanship etc. would be checked in accordance with the Article 5.4.
  - b) Progress in the activities specified in Condition Subsequent

- c) Verification of readiness of the elements including the statutory clearances & completion of civil works, fixing of all components and finalisation of punch points (if any) prior to charging of the elements
- d) Progress of construction of substation and Transmission Lines

5.5.5 The progress shall be reviewed by the Independent Engineer against the Project Execution Plan. The Independent Engineer shall prepare its report on monthly basis and submit the same to Nodal Agency highlighting the progress achieved till the end of respective month vis-à-vis milestone activities, areas of concern, if any, which may result in delay in the timely completion of the Project. Based on the progress, Nodal Agency and/ or CEA shall issue written instructions to the TSP to take corrective measures, as may be prudent for the timely completion of the Project. In case of any deficiency, the Nodal Agency would be at liberty to take action in accordance with the procedure of this Agreement.

5.5.6 For any delay in commissioning any critical Element(s), as identified in Schedule 1 & Schedule 2 of this Agreement, beyond a period of 45 days shall lead to a sequestration of 10% of the Contract Performance Guarantee.

## **5.6 Site regulations and Construction Documents**

The TSP shall abide by the Safety Rules and Procedures as mentioned in Schedule 3 of this Agreement

The TSP shall retain at the Site and make available for inspection at all reasonable times, copies of the Consents, Clearances and Permits, construction drawings and other documents related to construction.

## **5.7 Supervision of work:**

The TSP shall provide all necessary superintendence for execution of the Project and its supervisory personnel shall be available to provide full-time superintendence for execution of the Project. The TSP shall provide skilled personnel who are experienced in their respective fields.

## **5.8 Remedial Measures:**

The TSP shall take all necessary actions for remedying the shortfall in achievement of timely progress in execution of the Project, if any, as intimated by the Independent Engineer and/ or CEA and/ or the Nodal Agency. However, such intimation by the Independent Engineer and/ or CEA and/ or the Nodal Agency and the subsequent effect of such remedial measures carried out by the TSP shall not relieve the TSP of its obligations in the Agreement. Independent Engineer and/ or CEA and/ or the Nodal Agency may carry out random inspections during the

Project execution, as and when deemed necessary by it. If the shortfalls as intimated to the TSP are not remedied to the satisfaction of the CEA and/ or the Nodal Agency, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement .

**ARTICLE: 6****6 Connection and commissioning of the Project****6.1 Connection with the Inter-Connection Facilities:**

- 6.1.1 The TSP shall give the RLDC(s), CTU, / STU, as the case may be, and any other agencies as required, at least sixty (60) days advance written notice of the date on which it intends to connect an Element of the Project, which date shall not be earlier than its Scheduled COD or Schedule COD extended as per Article 4.4.1 & 4.4.2 of this Agreement, unless mutually agreed to by Parties. Further, any preponing of COD of any element prior to Scheduled COD must be approved by the Nodal Agency.
- 6.1.2 The RLDC / SLDC (as the case may be) or the CTU / STU (as the case may be), for reasonable cause, including non-availability of Interconnection Facilities as per Article 4.2, can defer the connection for up to fifteen (15) days from the date notified by the TSP pursuant to Article 6.1.1, if it notifies to the TSP in writing, before the date of connection, of the reason for the deferral and when the connection is to be rescheduled. However, no such deferment on one or more occasions would be for more than an aggregate period of thirty (30) days. Further, the Scheduled COD would be extended as required, for all such deferments on “day to day” basis.
- 6.1.3 Subject to Articles 6.1.1 and 6.1.2, any Element of Project may be connected with the Interconnection Facilities when:
- a. it has been completed in accordance with this Agreement and the Connection Agreement;
  - b. it meets the Grid Code, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 as amended from time to time and all other Indian legal requirements, and
  - c. The TSP has obtained the approval in writing of the Electrical Inspector certifying that the Element is ready from the point of view of safety of supply and can be connected with the Interconnection Facilities.
  - d. It has satisfactorily met all the testing requirements as per Articles 6.1.4
- 6.1.4 Site Acceptance Test (SAT)/ pre-commissioning tests of all major substation equipment, component, system, facilities shall be successfully carried out before commissioning. The Type tests, FAT and SAT reports should be available at the

substation / terminal station of HVDC installations for ready reference of operation and maintenance staff and has to be made available to the Independent Engineer appointed for quality monitoring or their authorised representatives, as and when they wish to examine the same.

## **6.2 Commercial Operation:**

- 6.2.1 An Element of the Project shall be declared to have achieved COD twenty four (24) hours following the connection of the Element with the Interconnection Facilities pursuant to Article 6.1 or seven (7) days after the date on which it is declared by the TSP to be ready for charging but is not able to be charged for reasons not attributable to the TSP subject to Article 6.1.2.

Provided that an Element shall be declared to have achieved COD only after all the Element(s), if any, which are pre-required to have achieved COD as defined in Schedule 2 of this Agreement, have been declared to have achieved their respective COD.

- 6.2.2 Once any Element of the Project has been declared to have achieved deemed COD as per Article 6.2.1 above, such Element of the Project shall be deemed to have Availability equal to the Target Availability till the actual charging of the Element and to this extent, TSP shall be eligible for the Monthly Transmission Charges applicable for such Element

## **6.3 Compensation for Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event (affecting the Nodal Agency)**

- 6.3.1 If the TSP is otherwise ready to connect the Element(s) of the Project and has given due notice, as per provisions of Article 6.1.1, to the concerned agencies of the date of intention to connect the Element(s) of the Project, where such date is not before the Scheduled COD, but is not able to connect the Element(s) of the Project by the said date specified in the notice, due to Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, provided such Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency has continued for a period of more than three (3) continuous or non-continuous Months, the TSP shall, until the effects of the Direct Non Natural Force Majeure Event or of Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency no longer prevent the TSP from connecting the Element(s) of the Project, be deemed to have achieved COD relevant to that date and to this extent, be deemed to have been providing Transmission Service with effect from the date notified,

and shall be treated as follows:

- a. In case of delay due to Direct Non Natural Force Majeure Event, TSP is entitled for Transmission Charges calculated on Target Availability for the period of such events in excess of three (3) continuous or non continuous Months in the manner provided in (c) below.
- b. In case of delay due to Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, TSP is entitled for payment for debt service which is due under the Financing Agreements, subject to a maximum of Transmission Charges calculated on Target Availability, for the period of such events in excess of three (3) continuous or non continuous Months in the manner provided in (c) below.
- c. In case of delay due to Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, the TSP is entitled for payments mentioned in (a) and (b) above, after commencement of Transmission Service, in the form of an increase in Transmission Charges. These amounts shall be paid from the date, being the later of a) the date of cessation of such Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency and b) the completion of sixty (60) days from the receipt of the Financing Agreements by the Nodal Agency from the TSP.

Provided such increase in Transmission Charges shall be so as to put the TSP in the same economic position as the TSP would have been in case the TSP had been paid amounts mentioned in (a) and (b) above in a situation where the Force Majeure Event had not occurred.

For the avoidance of doubt, it is clarified that the charges payable under this Article 6.3.1 shall be recovered as per Sharing Regulations.

#### **6.4 Liquidated Damages for Delay in achieving COD of Project:**

- 6.4.1 If the TSP fails to achieve COD of any Element of the Project or the Project, by the Element's / Project's Scheduled COD or such Scheduled COD as extended under Articles 4.4.1 and 4.4.3, then the TSP shall pay to the Nodal Agency, a sum equivalent to 3.33% of Monthly Transmission Charges applicable for the Element of the Project [in case where no Elements have been defined, to be on the Project as a whole] / Project, for each day of delay up to sixty (60) days of delay and beyond that time limit, at the rate of five percent (5%) of the Monthly Transmission Charges applicable to such Element / Project, as liquidated damages

for such delay and not as penalty, without prejudice to any rights of the Nodal Agency under the Agreement.

- 6.4.2 The TSP's maximum liability under this Article 6.4 shall be limited to the amount of liquidated damages calculated in accordance with Article 6.4.1 for and up to six (6) months of delay for the Element or the Project.

Provided that, in case of failure of the TSP to achieve COD of the Element of the Project even after the expiry of six (6) months from its Scheduled COD, the provisions of Article 13 shall apply.

- 6.4.3 The TSP shall make payment to the Nodal Agency of the liquidated damages calculated pursuant to Article 6.4.1 within ten (10) days of the earlier of:

- a. the date on which the applicable Element achieves COD; or
- b. the date of termination of this Agreement.

The payment of such damages shall not relieve the TSP from its obligations to complete the Project or from any other obligation and liabilities under the Agreement.

- 6.4.4 If the TSP fails to pay the amount of liquidated damages to the Nodal Agency within the said period of ten (10) days, the Nodal Agency shall be entitled to recover the said amount of the liquidated damages by invoking the Contract Performance Guarantee. If the then existing Contract Performance Guarantee is for an amount which is less than the amount of the liquidated damages payable by the TSP to the Nodal Agency under this Article 6.3 and the TSP fails to make payment of the balance amount of the liquidated damages not covered by the Contract Performance Guarantee, then such balance amount shall be deducted from the Transmission Charges payable to the TSP. The right of the Nodal Agency to encash the Contract Performance Guarantee is without prejudice to the other rights of the Nodal Agency under this Agreement.

- 6.4.5 For avoidance of doubt, it is clarified that amount payable by TSP under this Article is over and above the penalty payable by TSP under Article 5.5.6 of this Agreement.

## **6.5 Return of Contract Performance Guarantee**

- 6.5.1 The Contract Performance Guarantee as submitted by TSP in accordance with Article 3.1.1 shall be released by the Nodal Agency within three (3) months from the COD of the Project. In the event of delay in achieving Scheduled COD of any of the Elements by the TSP (otherwise than due to reasons as mentioned in Article

3.1.3 or Article 11) and consequent part invocation of the Contract Performance Guarantee by the Nodal Agency, Nodal Agency shall release the Contract Performance Guarantee, if any remaining unadjusted, after the satisfactory completion by the TSP of all the requirements regarding achieving the Scheduled COD of the remaining Elements of the Project. It is clarified that the Nodal Agency shall also return / release the Contract Performance Guarantee in the event of (i) applicability of Article 3.3.2 to the extent the Contract Performance Guarantee is valid for an amount in excess of Rs. 22.00 Crore (Rupees Twenty-Two Crore only), or (ii) termination of this Agreement by the Nodal Agency as mentioned under Article 3.3.4 of this Agreement.

- 6.5.2 The release of the Contract Performance Guarantee shall be without prejudice to other rights of the Nodal Agency under this Agreement.



**ARTICLE: 7****7      Operation and Maintenance of the Project****7.1      Operation and Maintenance of the Project:**

The TSP shall be responsible for ensuring that the Project is operated and maintained in accordance with the regulations made by the Commission and CEA from time to time and provisions of the Act.

**ARTICLE: 8****8 Availability of the project****8.1 Calculation of Availability of the Project:**

Calculation of Availability for the Elements and for the Project, as the case may be, shall be as per Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, as applicable on the Bid Deadline and as appended in Schedule 6 of this Agreement.

**8.2 Target Availability:**

The Target Availability of each Element and the Project shall be 98%.

Payment of monthly Transmission charges based on actual availability will be calculated as per para 1.2 of Schedule 4 of this Agreement.

If the availability of any Element or the Project is below the Target Availability, for six consecutive months in a Contract Year, the DIC(s) or the Nodal Agency may issue a show cause notice to the TSP, asking them to show cause as to why the Transmission Service Agreement be not terminated, and if no satisfactory cause is shown it may terminate the Agreement. If the Nodal Agency is of the opinion that the transmission system is of critical importance, it may carry out or cause to carry the operation and maintenance of transmission system at the risk and cost of TSP.

## ARTICLE: 9

### 9 Insurances

#### 9.1 Insurance:

9.1.1 The TSP shall effect and maintain or cause to be effected and maintained during the Construction Period and the Operating Period, adequate Insurances against such risks, with such deductibles including but not limited to any third party liability and endorsements and co-beneficiary/insured, as may be necessary under

- a. any of the Financing Agreements,
- b. the Laws, and
- c. in accordance with Prudent Utility Practices.

The Insurances shall be taken effective from a date prior to the date of the Financial Closure till the Expiry Date.

#### 9.2 Evidence of Insurance cover:

9.2.1 The TSP shall furnish to the Nodal Agency copies of certificates and policies of the Insurances, as and when the Nodal Agency may seek from the TSP as per the terms of Article 9.1

#### 9.3 Application of Insurance Proceeds:

9.3.1 Save as expressly provided in this Agreement, the policies of Insurances and the Financing Agreements, the proceeds of any insurance claim made due to loss or damage to the Project or any part of the Project shall be first applied to reinstatement, replacement or renewal of such loss or damage.

9.3.2 If a Natural Force Majeure Event renders the Project no longer economically and technically viable and the insurers under the Insurances make payment on a “total loss” or equivalent basis, the portion of the proceeds of such Insurance available to the TSP (after making admissible payments to the Lenders as per the Financing Agreements) shall be allocated only to the TSP. Nodal Agency and / or concerned Designated ISTS Customers shall have no claim on such proceeds of the Insurance.

9.3.3 Subject to the requirements of the Lenders under the Financing Agreements, any dispute or difference between the Parties as to whether the Project is no longer economically and technically viable due to a Force Majeure Event or whether that event was adequately covered in accordance with this Agreement by the

Insurances shall be determined in accordance with Article 16.

**9.4 Effect on liability of the Nodal Agency / Designated ISTS Customers**

- 9.4.1 The Nodal Agency and / or the Designated ISTS Customers shall have no financial obligations or liability whatsoever towards the TSP in respect of this Article 9.

**ARTICLE: 10****10 Billing And Payment of Transmission Charges**

**10.1** Subject to provisions of this Article 10, the Monthly Transmission Charges shall be paid to the TSP, in Indian Rupees, on monthly basis as per the provisions of the Sharing Regulations, from the date on which an Element(s) has achieved COD until the Expiry Date of this Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this Agreement.

**10.2 Calculation of Monthly Transmission Charges:**

The Monthly Transmission Charges for each Contract Year including Incentive & Penalty payment shall be calculated in accordance with the provisions of Schedule 4 of this Agreement.

**10.3 Rebate & Late Payment Surcharge:**

The rebate and late payment surcharge shall be governed as per Sharing Regulations.

**10.4 Disputed Bills, Default in payment by the Designated ISTS Customers & Annual Reconciliation:**

Any Disputed Bill, Default in payment by the Designated ISTS Customers & Annual Reconciliation shall be governed as per Sharing Regulations.

## ARTICLE: 11

### 11 Force Majeure

#### 11.1 Definitions

11.1.1 The following terms shall have the meanings given hereunder.

#### 11.2 Affected Party

11.2.1 An Affected Party means any Party whose performance has been affected by an event of Force Majeure.

11.2.2 Any event of Force Majeure shall be deemed to be an event of Force Majeure affecting the TSP only if the Force Majeure event affects and results in, late delivery of machinery and equipment for the Project or construction, completion, commissioning of the Project by Scheduled COD and/or operation thereafter;

#### 11.3 Force Majeure

A 'Force Majeure' means any event or circumstance or combination of events and circumstances including those stated below that wholly or partly prevents or unavoidably delays an Affected Party in the performance of its obligations/ roles under this Agreement, but only if and to the extent that such events or circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided if the Affected Party had taken reasonable care or complied with Prudent Utility Practices:

##### (a) Natural Force Majeure Events:

- i. act of God, including, but not limited to drought, fire and explosion (to the extent originating from a source external to the Site), earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, or exceptionally adverse weather conditions, which are in excess of the statistical measures for the last hundred (100) years; and
- ii. epidemic/ pandemic notified by Indian Governmental Instrumentality.

##### (b) Non-Natural Force Majeure Events :

- i. Direct Non–Natural Force Majeure Events
  - Nationalization or compulsory acquisition by any Indian Governmental Instrumentality of any material assets or rights of the Affected Party; or

- the unlawful, unreasonable or discriminatory revocation of, or refusal to renew, any Consents, Clearances and Permits required by the Affected Party to perform their obligations/ roles under the RFP Project Documents or any unlawful, unreasonable or discriminatory refusal to grant any other Consents, Clearances and Permits required for the development/ operation of the Project, provided that a Competent Court of Law declares the revocation or refusal to be unlawful, unreasonable and discriminatory and strikes the same down; or
- any other unlawful, unreasonable or discriminatory action on the part of an Indian Governmental Instrumentality which is directed against the Project, provided that a Competent Court of Law declares the action to be unlawful, unreasonable and discriminatory and strikes the same down.

ii. Indirect Non - Natural Force Majeure Events

- act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or
- radio active contamination or ionising radiation originating from a source in India or resulting from any other Indirect Non Natural Force Majeure Event mentioned above, excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the Site by the Affected Party or those employed or engaged by the Affected Party; or
- industry-wide strikes and labour disturbances, having a nationwide impact in India.

## **11.4 Force Majeure Exclusions**

11.4.1 Force Majeure shall not include (i) any event or circumstance which is within the reasonable control of the Parties and (ii) the following conditions, except to the extent that they are consequences of an event of Force Majeure:

- (a) Unavailability, late delivery, or changes in cost of the machinery, equipment, materials, spare parts etc. for the Project;
- (b) Delay in the performance of any Contractors or their agents;
- (c) Non-performance resulting from normal wear and tear typically experienced

in transmission materials and equipment;

- (d) Strikes or labour disturbance at the facilities of the Affected Party;
- (e) Insufficiency of finances or funds or the Agreement becoming onerous to perform; and
- (f) Non-performance caused by, or connected with, the Affected Party's:
  - i. negligent or intentional acts, errors or omissions;
  - ii. failure to comply with an Indian Law; or
  - iii. breach of, or default under this Agreement or any Project Documents.
- (g) Any error or omission in the survey report provided by BPC during the bidding process.

## **11.5 Notification of Force Majeure Event**

- 11.5.1 The Affected Party shall give notice to the other Party of any event of Force Majeure as soon as reasonably practicable, but not later than seven (7) days after the date on which such Party knew or should reasonably have known of the commencement of the event of Force Majeure. If an event of Force Majeure results in a breakdown of communications rendering it unreasonable to give notice within the applicable time limit specified herein, then the Party claiming Force Majeure shall give such notice as soon as reasonably practicable after reinstatement of communications, but not later than one (1) day after such reinstatement.

Provided that, such notice shall be a pre-condition to the Affected Party's entitlement to claim relief under this Agreement. Such notice shall include full particulars of the event of Force Majeure, its effects on the Party claiming relief and the remedial measures proposed. The Affected Party shall give the other Party regular reports on the progress of those remedial measures and such other information as the other Party may reasonably request about the Force Majeure.

- 11.5.2 The Affected Party shall give notice to the other Party of (i) the cessation of the relevant event of Force Majeure; and (ii) the cessation of the effects of such event of Force Majeure on the performance of its rights or obligations/ roles under this Agreement, as soon as practicable after becoming aware of each of these cessations.

## **11.6 Duty to perform and duty to mitigate**



To the extent not prevented by a Force Majeure Event, the Affected Party shall continue to perform its obligations/ roles as provided in this Agreement. The Affected Party shall use its reasonable efforts to mitigate the effect of any event of Force Majeure as soon as practicable.

#### **11.7 Available Relief for a Force Majeure Event**

Subject to this Article 11,

- (a) no Party shall be in breach of its obligations/ roles pursuant to this Agreement to the extent that the performance of its obligations/ roles was prevented, hindered or delayed due to a Force Majeure Event;
- (b) each Party shall be entitled to claim relief for a Force Majeure Event affecting its performance in relation to its obligations/ roles under Articles 3.3.4, 4.4.2 and 6.3.1 of this Agreement.
- (c) For the avoidance of doubt, it is clarified that the computation of Availability of the Element(s) under outage due to Force Majeure Event, as per Article 11.3 affecting the TSP shall be as per Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 as on Bid Deadline. For the event(s) for which the Element(s) is/are deemed to be available as per Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, then the Transmission Charges, as applicable to such Element(s), shall be payable as per Schedule 4, for the duration of such event(s).
- (d) For so long as the TSP is claiming relief due to any Force Majeure Event under this Agreement, the Nodal Agency may, if it so desires, from time to time on one (1) day notice, inspect the Project and the TSP shall provide the Nodal Agency's personnel with access to the Project to carry out such inspections.
- (e) For avoidance of doubt, the TSP acknowledges that for extension of Scheduled COD a period up to one hundred eighty (180) days due to Force Majeure event, no compensation on the grounds such as interest cost, incident expenditure, opportunity cost will be made to the TSP. However, if Scheduled COD is extended beyond a period of one hundred eighty (180) days due to Force Majeure event, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9.

**ARTICLE: 12****12 Change in Law****12.1 Change in Law**

12.1.1 Change in Law means the occurrence of any of the following after the Bid Deadline resulting into any additional recurring / non-recurring expenditure by the TSP or any savings of the TSP:

- the enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law, subject to the provisions under Article 12.1.2;
- a change in the interpretation or application of any Law by any Indian Governmental Instrumentality having the legal power to interpret or apply such Law, or any Competent Court of Law;
- the imposition of a requirement for obtaining any Consents, Clearances and Permits which was not required earlier;
- a change in the terms and conditions prescribed for obtaining any Consents, Clearances and Permits or the inclusion of any new terms or conditions for obtaining such Consents, Clearances and Permits;
- any change in the licensing regulations of the Commission, under which the Transmission License for the Project was granted if made applicable by such Commission to the TSP;
- change in wind zone; or
- any change in tax or introduction of any tax made applicable for providing Transmission Service by the TSP as per the terms of this Agreement.

12.1.2 Notwithstanding anything contained in this Agreement, Change in Law shall not cover any change:

- a) Taxes on corporate income; and
- b) Withholding tax on income or dividends distributed to the shareholders of the TSP.

**12.2 Relief for Change in Law**

12.2.1 During Construction Period, the impact of increase/decrease in the cost of the Project on the Transmission Charges shall be governed by the formula given in Schedule 9 of this Agreement.

12.2.2 During the Operation Period:

During the operation period, if as a result of Change in Law, the TSP suffers or is benefited from a change in costs or revenue, the aggregate financial effect of which exceeds 0.30% (zero point three percent) of the Annual Transmission Charges in aggregate for a Contract Year, the TSP may notify so to the Nodal Agency and propose amendments to this Agreement so as to place the TSP in the same financial position as it would have enjoyed had there been no such Change in Law resulting in change in costs or revenue as aforesaid.

12.2.3 For any claims made under Articles 12.2.1 and 12.2.2 above, the TSP shall provide to the Nodal Agency documentary proof of such increase / decrease in cost of the Project / revenue for establishing the impact of such Change in Law.

In cases where Change in Law results in decrease of cost and it comes to the notice of Nodal Agency that TSP has not informed Nodal Agency about such decrease in cost, Nodal Agency may initiate appropriate claim.

**12.3 Notification of Change in Law:**

12.3.1 If the TSP is affected by a Change in Law in accordance with Article 12.1 and wishes to claim relief for such Change in Law under this Article 12, it shall give notice to Nodal Agency of such Change in Law as soon as reasonably practicable after becoming aware of the same.

12.3.2 The TSP shall also be obliged to serve a notice to the Nodal Agency even when it is beneficially affected by a Change in Law.

12.3.3 Any notice served pursuant to Articles 12.3.1 and 12.3.2 shall provide, amongst other things, precise details of the Change in Law and its estimated impact on the TSP.

**12.4 Payment on account of Change in Law**

12.4.1 The payment for Change in Law shall be through a separate Bill. However, in case of any change in Monthly Transmission Charges by reason of Change in

Law, as determined in accordance with this Agreement, the Bills to be raised by the Nodal Agency after such change in Transmission Charges shall appropriately reflect the changed Monthly Transmission Charges.

**ARTICLE: 13****13 Events of Default and Termination****13.1 TSP's Event of Default**

The occurrence and continuation of any of the following events shall constitute a TSP Event of Default, unless any such TSP Event of Default occurs as a result of any non-fulfilment of its obligations as prescribed under this Agreement by the Nodal Agency or a Force Majeure Event:

- a. After having taken up the construction of the Project, the abandonment by the TSP or the TSP's Contractors of the construction of the Project for a continuous period of two (2) months and such default is not rectified within thirty (30) days from the receipt of notice from the Nodal Agency in this regard;
- b. The failure to commission any Element of the Project by the date falling six (6) months after its Scheduled COD unless extended by Nodal Agency as per provisions of this Agreement;
- c. If the TSP:
  - i. assigns, mortgages or charges or purports to assign, mortgage or charge any of its assets or rights related to the Project in contravention of the provisions of this Agreement; or
  - ii. transfers or novates any of its obligations pursuant to this Agreement, in a manner contrary to the provisions of this Agreement;

Except where such transfer is in pursuance of a Law and

- it does not affect the ability of the transferee to perform, and such transferee has the financial and technical capability to perform, its obligations under this Agreement;
  - is to a transferee who assumes such obligations under the Project and this Agreement remains effective with respect to the transferee;
- d. If:
    - i. The TSP becomes voluntarily or involuntarily the subject of any bankruptcy or insolvency or winding up proceedings and such

proceedings remain uncontested for a period of thirty (30) days;  
or

- ii. any winding up or bankruptcy or insolvency order is passed against the TSP; or
- iii. the TSP goes into liquidation or dissolution or a receiver or any similar officer is appointed over all or substantially all of its assets or official liquidator is appointed to manage its affairs, pursuant to Law,

Provided that a dissolution or liquidation of the TSP will not be a TSP's Event of Default, where such dissolution or liquidation of the TSP is for the purpose of a merger, consolidation or reorganization with the prior approval of the Commission as per the provisions of Central Electricity Regulatory Commission (Procedure, terms and Conditions for grant of Transmission License and other related matters) Regulations, 2006 or as amended from time to time; or

- e. Failure on the part of the TSP to comply with the provisions of Article 19.1 of this Agreement; or
- f. the TSP repudiates this Agreement and does not rectify such breach even within a period of thirty (30) days from a notice from the Nodal Agency in this regard; or
- g. after Commercial Operation Date of the Project, the TSP fails to achieve monthly Target Availability of 98%, for a period of six (6) consecutive months or within a non-consecutive period of six (6) months within any continuous aggregate period of eighteen(18) months except where the Availability is affected by Force Majeure Events as per Article 11; or
- h. any of the representations and warranties made by the TSP in Article 17 of this Agreement being found to be untrue or inaccurate. Further, in addition to the above, any of the undertakings submitted by the Selected Bidder at the time of submission of the Bid being found to be breached or inaccurate, including but not limited to undertakings from its Parent Company / Affiliates related to the minimum equity obligation; or
- i. the TSP fails to complete / fulfil all the activities / conditions within the specified period as per Article 3; or

- j. except for the reasons solely attributable to Nodal Agency, the TSP is in material breach of any of its obligations under this Agreement and such material breach is not rectified by the TSP within thirty (30) days of receipt of notice in this regard from the Nodal Agency; or
- k. the TSP fails to take the possession of the land required for location specific substations, switching stations or HVDC terminal or inverter stations and / or fails to pay the requisite price to the parties and / or any State Government authority from whom the land is acquired, within twelve (12) months from the Effective Date.

### **13.2 Termination Procedure for TSP Event of Default**

- a. Upon the occurrence and continuance of any TSP's Event of Default under Article 13.1 the Nodal Agency may serve notice on the TSP, with a copy to the CEA and the Lenders' Representative, of their intention to terminate this Agreement (a "Nodal Agency's Preliminary Termination Notice"), which shall specify in reasonable detail, the circumstances giving rise to such Nodal Agency's Preliminary Termination Notice.
- b. Following the issue of a Nodal Agency's Preliminary Termination Notice, the Consultation Period shall apply and would be for the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant Event of Default having regard to all the circumstances.
- c. During the Consultation Period, the Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations/ roles under this Agreement, and the TSP shall not remove any material, equipment or any part of the Project, without prior consent of the Nodal Agency.

Following the expiry of the Consultation Period, unless the Parties shall have otherwise agreed to the contrary or the circumstances giving rise to Nodal Agency's Preliminary Termination Notice shall have ceased to exist or shall have been remedied, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.

Further, the Nodal Agency may also initiate proceedings to blacklist the TSP & its Affiliates from participation in any RFP issued by BPCs for a period of 5 years.

**13.3 Procedure for Nodal Agency's non-fulfilment of Role**

- a. Upon the Nodal Agency not being able to fulfil its role under Article 4.2, the TSP may serve notice on the Nodal Agency, with a copy to CEA and the Lenders' Representative (a "TSP's Preliminary Notice"), which notice shall specify in reasonable detail the circumstances giving rise to such non-fulfilment of role by the Nodal Agency.
- b. Following the issue of a TSP's Preliminary Notice, the Consultation Period shall apply.
- c. The Consultation Period would be for the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant non-fulfilment of role by the Nodal Agency including giving time extension to TSP, having regard to all the circumstances.
- d. During the Consultation Period, both Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations/ roles under this Agreement.

**13.4 Termination due to Force Majeure**

- 13.4.1 In case the Parties could not reach an agreement pursuant to Articles 3.3.4 and 4.4.2 of this Agreement and the Force Majeure Event or its effects continue to be present, the Nodal Agency shall have the right to cause termination of the Agreement. In case of such termination, the Contract Performance Guarantee shall be returned to the TSP as per the provisions of Article 6.5.1.
- 13.4.2 In case of termination of this Agreement, the TSP shall provide to the Nodal Agency the full names and addresses of its Contractors as well as complete designs, design drawings, manufacturing drawings, material specifications and technical information, as required by the Nodal Agency within thirty (30) days of Termination Notice.

**13.5 Termination or amendment due to non-requirement of any Element or Project during construction**

- 13.5.1 In case any Element or Project, which is under construction, is no longer required due to any reason whatsoever, the Nodal Agency may issue a notice to this effect to the TSP.
- 13.5.2 Nodal agency may also issue notice to the TSP seeking their response to the proposed termination/ amendment (as the case may be) of the Agreement. The Nodal Agency shall issue copy of such notice to Lenders. In the notice, Nodal



Agency shall also include an assessment of the physical progress made by TSP in the Element/ Project (as the case may be) that is no longer required.

- 13.5.3 The TSP shall neither carry out further investment nor carry out any work on the Element/ Project (as the case may be) that is no longer required after delivery of the notice.
- 13.5.4 After taking into account the comments of the TSP, the Nodal Agency may terminate the Agreement or amend it if both Parties agree to the amendment.

### **13.6 Revocation of the Transmission License**

- 13.6.1 The Commission may, as per the provisions of the Electricity Act, 2003, revoke the Transmission License of the ISTS Licensee. Further, in such a case, the Agreement shall be deemed to have been terminated.

### **13.7 Termination Payment**

- 13.7.1 If Agreement is terminated on account of Force Majeure Events, non-requirement of any Element or Project during Construction, Nodal Agency's non-fulfilment of Role & TSP's Event of Default, the TSP shall be entitled for Termination Payment equivalent to valuation of Project Assets. Upon payment, the Nodal Agency shall take over the Project Assets.

**ARTICLE: 14****14 Liability and Indemnification****14.1 Indemnity**

14.1.1 The TSP shall indemnify, defend and hold the Nodal Agency harmless against:

- (a) any and all third party claims, actions, suits or proceedings against the Nodal Agency for any loss of or damage to property of such third party, or death or injury to such third party, arising out of a breach by the TSP of any of its obligations under this Agreement, except to the extent that any such claim, action, suit or proceeding has arisen due to a negligent act or omission, breach of this Agreement or non-fulfilment of statutory duty on the part of Nodal Agency; and
- (b) any and all losses, damages, costs and expenses including legal costs, fines, penalties and interest actually suffered or incurred by the Nodal Agency from third party claims arising by reason of:
  - i. a breach by the TSP of any of its obligations under this Agreement, (provided that this Article 14 shall not apply to such breaches by the TSP, for which specific remedies have been provided for under this Agreement) except to the extent that any such losses, damages, costs and expenses including legal costs, fines, penalties and interest (together to constitute “Indemnifiable Losses”) has arisen due to a negligent act or omission, breach of this Agreement or non-fulfilment of statutory duty on the part of the Nodal Agency, or
  - ii. any of the representations and warranties of the TSP under this Agreement being found to be inaccurate or untrue.

14.1.2 The Nodal Agency shall, in accordance with the Regulations framed by CERC in this regard, indemnify, defend and hold the TSP harmless against:

- (a) any and all third party claims, actions, suits or proceedings against the TSP, for any loss of or damage to property of such third party, or death or injury to such third party, arising out of any material breach by the Nodal Agency of any of their roles under this Agreement, except to the extent that any such claim, action, suit or proceeding has arisen due to a negligent act or omission, breach of this Agreement or breach of statutory duty on the part of the TSP, its Contractors, servants or agents; and
- (b) any and all losses, damages, costs and expenses including legal costs, fines,

penalties and interest ('Indemnifiable Losses') actually suffered or incurred by the TSP from third party claims arising by reason of:

- i. any material breach by the Nodal Agency of any of its roles under this Agreement (provided that, this Article 14 shall not apply to such breaches by the Nodal Agency, for which specific remedies have been provided for under this Agreement), except to the extent that any such Indemnifiable Losses have arisen due to a negligent act or omission, breach of this Agreement or breach of statutory duty on the part of the TSP, its Contractors, servants or agents or
- ii. any of the representations and warranties of the Nodal Agency under this Agreement being found to be inaccurate or untrue.

## **14.2 Patent Indemnity:**

### **14.2.1**

- (a) The TSP shall, subject to the Nodal Agency's compliance with Article 14.2.1 (b), indemnify and hold harmless the Nodal Agency and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Nodal Agency may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Agreement by reason of the setting up of the Project by the TSP.

Such indemnity shall not cover any use of the Project or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Agreement, any infringement resulting from the misuse of the Project or any part thereof, or any products produced in association or combination with any other equipment, plant or materials not supplied by the TSP, pursuant to the Agreement.

- (b) If any proceedings are brought or any claim is made against the Nodal Agency arising out of the matters referred to in Article 14.2.1(a), the Nodal Agency shall promptly give the TSP a notice thereof, and the TSP shall at its own expense take necessary steps and attend such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. The TSP shall promptly notify the Nodal Agency of all actions taken in such proceedings or claims.

- (c) If the TSP fails to notify the Nodal Agency within twenty-eight (28) days after receipt of such notice from the Nodal Agency under Article 14.2.1(b) above, that it intends to attend any such proceedings or claim, then the Nodal Agency shall be free to attend the same on their own behalf at the cost of the TSP. Unless the TSP has so failed to notify the Nodal Agency within the twenty eight (28) days period, the Nodal Agency shall make no admission that may be prejudicial to the defence of any such proceedings or claims.
- (d) The Nodal Agency shall, at the TSP's request, afford all available assistance to the TSP in attending to such proceedings or claim, and shall be reimbursed by the TSP for all reasonable expenses incurred in so doing.

#### 14.2.2

- (a) The Nodal Agency, in accordance with the Regulations framed by CERC in this regard, subject to the TSP's compliance with Article 14.2.2(b) shall indemnify and hold harmless the TSP and its employees, officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs and expenses of whatsoever nature, including attorney's fees and expenses, which the TSP may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Agreement by reason of the setting up of the Project by the TSP.
- (b) If any proceedings are brought or any claim is made against the TSP arising out of the matters referred to in Article 14.2.2 (a) the TSP shall promptly give the Nodal Agency a notice thereof, and the Nodal Agency shall at its own expense take necessary steps and attend such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. The Nodal Agency shall promptly notify the TSP of all actions taken in such proceedings or claims.
- (c) If the Nodal Agency fails to notify the TSP within twenty-eight (28) days after receipt of such notice from the TSP under Article 14.2.2(b) above, that it intends to attend any such proceedings or claim, then the TSP shall be free to attend the same on its own behalf at the cost of the Nodal Agency. Unless the Nodal Agency has so failed to notify the TSP within the twenty (28) days period, the TSP shall make no admission that may be prejudicial to the defence of any such proceedings or claim.
- (d) The TSP shall, at the Nodal Agency request, afford all available assistance to the Nodal Agency in attending to such proceedings or claim, and shall be

reimbursed by the Nodal Agency for all reasonable expenses incurred in so doing.

### **14.3 Monetary Limitation of liability**

- 14.3.1 A Party ("Indemnifying Party") shall be liable to indemnify the other Party ("Indemnified Party") under this Article 14 for any indemnity claims made in a Contract Year only up to an amount of Rupees One Crore Forty-Seven Lakh only (Rs. 1.47 Crore).

### **14.4 Procedure for claiming indemnity**

- 14.4.1 Where the Indemnified Party is entitled to indemnification from the Indemnifying Party pursuant to Articles 14.1 or 14.2 the Indemnified Party shall promptly notify the Indemnifying Party of such claim, proceeding, action or suit referred to in Articles 14.1 or 14.2 in respect of which it is entitled to be indemnified. Such notice shall be given as soon as reasonably practicable after the Indemnified Party becomes aware of such claim, proceeding, action or suit. The Indemnifying Party shall be liable to settle the indemnification claim within thirty (30) days of receipt of the above notice.

Provided however that, if:

- i. the Parties choose to contest, defend or litigate such claim, action, suit or proceedings in accordance with Article 14.4.3 below; and
- ii. the claim amount is not required to be paid/deposited to such third party pending the resolution of the Dispute,

the Indemnifying Party shall become liable to pay the claim amount to the Indemnified Party or to the third party, as the case may be, promptly following the resolution of the Dispute, if such Dispute is not settled in favour of the Indemnified Party.

- 14.4.2 The Indemnified Party may contest, defend and litigate a claim, action, suit or proceeding for which it is entitled to be indemnified under Articles 14.1 or 14.2 and the Indemnifying Party shall reimburse to the Indemnified Party all reasonable costs and expenses incurred by the Indemnified Party. However, such Indemnified Party shall not settle or compromise such claim, action, suit or proceedings without first getting the consent of the Indemnifying Party, which consent shall not be unreasonably withheld or delayed.
- 14.4.3 An Indemnifying Party may, at its own expense, assume control of the defence of any proceedings brought against the Indemnified Party if it acknowledges its

obligation to indemnify such Indemnified Party, gives such Indemnified Party prompt notice of its intention to assume control of the defence, and employs an independent legal counsel at its own cost that is reasonably satisfactory to the Indemnified Party.

#### **14.5 Limitation on Liability**

- 14.5.1 Except as expressly provided in this Agreement, neither the TSP nor the Nodal Agency nor their respective officers, directors, agents, employees or Affiliates (including, officers, directors, agents or employees of such Affiliates), shall be liable or responsible to the other Party or its Affiliates including its officers, directors, agents, employees, successors, insurers or permitted assigns for incidental, indirect or consequential, punitive or exemplary damages, connected with or resulting from performance or non-performance of this Agreement, or anything done in connection herewith, including claims in the nature of lost revenues, income or profits (other than payments expressly required and properly due under this Agreement), any increased expense of, reduction in or loss of transmission capacity or equipment used therefore, irrespective of whether such claims are based upon breach of warranty, tort (including negligence, whether of the Nodal Agency, the TSP or others), strict liability, contract, breach of statutory duty, operation of law or otherwise.
- 14.5.2 The Nodal Agency shall have no recourse against any officer, director or shareholder of the TSP or any Affiliate of the TSP or any of its officers, directors or shareholders for such claims excluded under this Article. The TSP shall also have no recourse against any officer, director or shareholder of the Nodal Agency, or any Affiliate of the Nodal Agency or any of its officers, directors or shareholders for such claims excluded under this Article.

#### **14.6 Duty to Mitigate**

The party entitled to the benefit of an indemnity under this Article 14 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the Party fails to take such measures, the other Party's liabilities shall be correspondingly reduced.

**ARTICLE: 15****15 Assignments and Charges****15.1 Assignments:**

- 15.1.1 This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns. This Agreement shall not be assigned by any Party, except as provided in Article 15.3.

**15.2 Permitted Charges:**

- 15.2.1 Neither Party shall create or permit to subsist any encumbrance over all or any of its rights and benefits under this Agreement.
- 15.2.2 However, the TSP may create any encumbrance over all or part of the receivables, or the Project Assets of the Project in favour of the Lenders or the Lenders' Representative on their behalf, as security for amounts payable under the Financing Agreements and any other amounts agreed by the Parties.

Provided that:

- i. the Lenders or the Lenders' Representative on their behalf shall have entered into the Financing Agreements and agreed in writing to the provisions of this Agreement; and
  - ii. any encumbrance granted by the TSP in accordance with this Article 15.2.2 shall contain provisions pursuant to which the Lenders or the Lender's Representative on their behalf agrees unconditionally with the TSP to release from such encumbrances upon payment by the TSP to the Lenders of all amounts due under the Financing Agreements.
- 15.2.3 Article 15.2.1 does not apply to:
- a. liens arising by operation of law (or by an agreement evidencing the same) in the ordinary course of the TSP developing and operating the Project;
  - b. pledges of goods, the related documents of title and / or other related documents, arising or created in the ordinary course of the TSP developing and operating the Project; or
  - c. security arising out of retention of title provisions in relation to goods acquired in the ordinary course of the TSP developing and operating the Project.

**15.3 Substitution Rights of the Lenders**

- 15.3.1 The TSP would need to operate and maintain the Project under the provisions of this Agreement and cannot assign the Transmission License or transfer the Project or part thereof to any person by sale, lease, exchange or otherwise, without the prior approval of the Nodal Agency.
- 15.3.2 However, in the case of default by the TSP in debt repayments or in the case of default by the TSP as per Article 13 of this Agreement during the debt repayments, the Commission may, on an application from the Lenders, assign the Transmission License to the nominee of the Lenders subject to the fulfilment of the qualification requirements and provisions of the Central Electricity Regulatory Commission (Procedure, terms and Conditions for grant of Transmission License and other related matters) Regulations, 2006 and as amended from time to time.



## ARTICLE: 16

### 16 Governing Law and Dispute Resolution

#### 16.1 Governing Law:

This Agreement shall be governed by and construed in accordance with the Laws of India. Any legal proceedings in respect of any matters, claims or disputes under this Agreement shall be under the jurisdiction of appropriate courts in Delhi.

#### 16.2 Amicable Settlement:

16.2.1 Either Party is entitled to raise any claim, dispute or difference of whatever nature arising under, out of or in connection with this Agreement, including its existence or validity or termination or whether during the execution of the Project or after its completion and whether prior to or after the abandonment of the Project or termination or breach of the Agreement by giving a written notice to the other Party, which shall contain:

- (i) a description of the Dispute;
- (ii) the grounds for such Dispute; and
- (iii) all written material in support of its claim.

16.2.2 The other Party shall, within thirty (30) days of issue of notice issued under Article 16.2.1, furnish:

- (i) counter-claim and defences, if any, regarding the Dispute; and
- (ii) all written material in support of its defences and counter-claim.

16.2.3 Within thirty (30) days of issue of notice by the Party pursuant to Article 16.2.1, if the other Party does not furnish any counter claim or defense under Article 16.2.2, or thirty (30) days from the date of furnishing counter claims or defence by the other Party, both the Parties to the Dispute shall meet to settle such Dispute amicably. If the Parties fail to resolve the Dispute amicably within thirty (30) days from the later of the dates mentioned in this Article 16.2.3, the Dispute shall be referred for dispute resolution in accordance with Article 16.3.

#### 16.3 Dispute Resolution:

All Disputes shall be adjudicated by the Commission.

#### 16.4 Parties to Perform Obligations:

Notwithstanding the existence of any Dispute and difference referred to the

Commission as provided in Article 16.3 and save as the Commission may otherwise direct by a final or interim order, the Parties hereto shall continue to perform their respective obligations/ roles (which are not in dispute) under this Agreement.

**ARTICLE: 17****17 Representation and Warranties****17.1 Representation and warranties of the Nodal Agency**

17.1.1 The Nodal Agency hereby represents and warrants to and agrees with the TSP as follows and acknowledges and confirms that the TSP is relying on such representations and warranties in connection with the transactions described in this Agreement:

- a. It has all requisite powers and authority to execute and consummate this Agreement;
- b. This Agreement is enforceable against the Nodal Agency in accordance with its terms;
- c. The consummation of the transactions contemplated by this Agreement on the part of Nodal Agency will not violate any provision of nor constitute a default under, nor give rise to a power to cancel any charter, mortgage, deed of trust or lien, lease, agreement, license, permit, evidence of indebtedness, restriction, or other contract to which the Nodal Agency is a Party or to which the Nodal Agency is bound, which violation, default or power has not been waived;

**17.2 Representation and Warranties of the TSP:**

17.2.1 The TSP hereby represents and warrants to and agrees with the Nodal Agency as follows and acknowledges and confirms that the Nodal Agency is relying on such representations and warranties in connection with the transactions described in this Agreement:

- a. It has all requisite powers and has been duly authorized to execute and consummate this Agreement;
- b. This Agreement is enforceable against it, in accordance with its terms;
- c. The consummation of the transactions contemplated by this Agreement on the part of the TSP will not violate any provision of nor constitute a default under, nor give rise to a power to cancel any charter, mortgage, deed of trust or lien, lease, agreement, license, permit, evidence of indebtedness, restriction, or other contract to which the TSP is a Party or to which the TSP is bound which violation, default or power has not been waived;
- d. The TSP is not insolvent and no insolvency proceedings have been instituted, nor threatened or pending by or against the TSP;

## Transmission Service Agreement

- e. There are no actions, suits, claims, proceedings or investigations pending or, to the best of the TSP's knowledge, threatened in writing against the TSP at law, in equity, or otherwise, and whether civil or criminal in nature, before or by, any court, commission, arbitrator or governmental agency or authority, and there are no outstanding judgments, decrees or orders of any such courts, commission, arbitrator or governmental agencies or authorities, which materially adversely affect its ability to execute the Project or to comply with its obligations under this Agreement.

17.2.2 The TSP makes all the representations and warranties above to be valid as on the Effective Date of this Agreement.

**ARTICLE: 18****18 Independent Engineer****18.1 Appointment of Independent Engineer**

The Nodal Agency shall appoint an agency/ company as Independent Engineer as per framework provided in the Guidelines for Encouraging Competition in Development of Transmission Projects for selection of Independent Engineer.

**18.2 Roles and functions of Independent Engineer**

The role and functions of the Independent Engineer shall include the following:

- a. Progress Monitoring as required under this Agreement;
- b. Ensuring Quality as required under this Agreement;
- c. determining, as required under the Agreement, the costs of any works or services and/or their reasonableness during construction phase;
- d. determining, as required under the Agreement, the period or any extension thereof, for performing any duty or obligation during construction phase;
- e. determining, as required under the Agreement, the valuation of the Project Assets.
- f. Assisting the Parties in resolution of Disputes and
- g. Undertaking all other duties and functions in accordance with the Agreement.

**18.3 Remuneration of Independent Engineer**

The fee and charges of the Independent Engineer shall be paid by the Nodal Agency as per terms & conditions of appointment.

**18.4 Termination of appointment**

18.4.1 The Nodal Agency may, in its discretion, terminate the appointment of the Independent Engineer at any time, but only after appointment of another Independent Engineer.

18.4.2 If the TSP has reason to believe that the Independent Engineer is not discharging its duties and functions in a fair, efficient and diligent manner, it may make a written representation to the Nodal Agency and seek termination of the appointment of the Independent Engineer. Upon receipt of such representation, the Nodal Agency shall hold a tripartite meeting with the TSP and Independent Engineer for an amicable

resolution, and the decision of Nodal agency is final. In the event that the appointment of the Independent Engineer is terminated hereunder, the Nodal Agency shall appoint forthwith another Independent Engineer.

#### **18.5 Authorised signatories**

The Nodal Agency shall require the Independent Engineer to designate and notify to the Nodal Agency up to 2 (two) persons employed in its firm to sign for and on behalf of the Independent Engineer, and any communication or document required to be signed by the Independent Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Independent Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.

**ARTICLE: 19****19 Miscellaneous Provisions****19.1 Equity Lock-in Commitment:**

- 19.1.1 The aggregate equity share holding of the Selected Bidder in the issued and paid up equity share capital of Ishanagar Power Transmission Limited shall not be less than Fifty one percent (51%) up to a period of one (1) year after COD of the Project.

Provided that, in case the Lead Member or Bidding Company is holding equity through Affiliate/s, Ultimate Parent Company or Parent Company, such restriction as specified above shall apply to such entities.

Provided further, that in case the Selected Bidder is a Bidding Consortium, the Lead Member shall continue to hold equity of at least twenty six percent (26%) upto a period of one (1) year after COD of the Project and any Member of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified above.

- 19.1.2 If equity is held by the Affiliates, Parent Company or Ultimate Parent Company of the Selected Bidder, then, subject to the second proviso to Article 19.1.1, such Affiliate, Parent Company or Ultimate Parent Company shall be eligible to transfer its shareholding in Ishanagar Power Transmission Limited to another Affiliate or to the Parent Company / Ultimate Parent Company of the Selected Bidder. If any such shareholding entity, qualifying as an Affiliate / Parent Company / Ultimate Parent Company, is likely to cease to meet the criteria to qualify as an Affiliate / Parent Company / Ultimate Parent Company, the shares held by such entity shall be transferred to another Affiliate / Parent Company / Ultimate Parent Company of the Selected Bidder.
- 19.1.3 Subject to Article 19.1.1, all transfer(s) of shareholding of Ishanagar Power Transmission Limited by any of the entities referred to in Article 19.1.1 and 19.1.2 above, shall be after prior written intimation to the Nodal Agency.
- 19.1.4 For computation of effective Equity holding, the Equity holding of the Selected Bidder or its Ultimate Parent Company in such Affiliate(s) or Parent Company and the equity holding of such Affiliate(s) or Ultimate Parent Company in Ishanagar Power Transmission Limited shall be computed in accordance with the example given below:

If the Parent Company or the Ultimate Parent Company of the Selected Bidder A directly holds thirty percent (30%) of the equity in Ishanagar Power Transmission

## Transmission Service Agreement

Limited then holding of Selected Bidder A in Ishanagar Power Transmission Limited shall be thirty percent (30%);

If Selected Bidder A holds thirty percent (30%) equity of the Affiliate and the Affiliate holds fifty percent (50%) equity in Ishanagar Power Transmission Limited, then, for the purposes of ascertaining the minimum equity/equity lock-in requirements specified above, the effective holding of Bidder A in Ishanagar Power Transmission Limited shall be fifteen percent (15%), (i.e., 30% x 50%)

19.1.5 The provisions as contained in this Article 19.1 shall override the terms of the consortium agreement submitted as part of the Bid.

19.1.6 The TSP shall be responsible to report to Nodal Agency, within thirty (30) days from the occurrence of any event that would result in any change in its equity holding structure from that which existed as on the date of signing of the Share Purchase Agreement. In such cases, the Nodal Agency would reserve the right to ascertain the equity holding structure and to call for all such required documents / information / clarifications as may be required.

## **19.2 Commitment of maintaining Qualification Requirement**

19.2.1 The Selected Bidder will be required to continue to maintain compliance with the Qualification Requirements, as stipulated in RFP Document, till the COD of the Project. Where the Technically Evaluated Entity and/or the Financially Evaluated Entity is not the Bidding Company or a Member in a Bidding Consortium, as the case may be, the Bidding Company or Member shall continue to be an Affiliate of the Technically Evaluated Entity and/or Financially Evaluated Entity till the COD of the Project.

19.2.2 Failure to comply with the aforesaid provisions shall be dealt in the same manner as TSP's Event of Default as under Article 13 of this Agreement.

## **19.3 Language:**

19.3.1 All agreements, correspondence and communications between the Parties relating to this Agreement and all other documentation to be prepared and supplied under the Agreement shall be written in English, and the Agreement shall be construed and interpreted in accordance with English language.

19.3.2 If any of the agreements, correspondence, communications or documents are prepared in any language other than English, the English translation of such agreements, correspondence, communications or documents shall prevail in matters of interpretation.

## **19.4 Affirmation**



The TSP and the Nodal Agency, each affirm that:

1. neither it nor its respective directors, employees, or agents has paid or undertaken to pay or shall in the future pay any unlawful commission, bribe, pay-off or kick-back; and
2. it has not in any other manner paid any sums, whether in Indian currency or foreign currency and whether in India or abroad to the other Party to procure this Agreement, and the TSP and the Nodal Agency hereby undertake not to engage in any similar acts during the Term of Agreement.

#### **19.5 Severability**

The invalidity or enforceability, for any reason, of any part of this Agreement shall not prejudice or affect the validity or enforceability of the remainder of this Agreement, unless the part held invalid or unenforceable is fundamental to this Agreement.

#### **19.6 Counterparts**

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which collectively shall be deemed one and the same Agreement.

#### **19.7 Breach of Obligations/ Roles**

The Parties acknowledge that a breach of any of the obligations/ roles contained herein would result in injuries. The Parties further acknowledge that the amount of the liquidated damages or the method of calculating the liquidated damages specified in this Agreement is a genuine and reasonable pre-estimate of the damages that may be suffered by the non-defaulting Party in each case specified under this Agreement.

#### **19.8 Restriction of Shareholders / Owners Liability**

- 19.8.1 Parties expressly agree and acknowledge that none of the shareholders of the Parties hereto shall be liable to the other Parties for any of the contractual obligations of the concerned Party under this Agreement.
- 19.8.2 Further, the financial liabilities of the shareholder(s) of each Party to this Agreement shall be restricted to the extent provided in the Indian Companies Act, 1956 / Companies Act, 2013 (as the case may be).

#### **19.9 Taxes and Duties:**

- 19.9.1 The TSP shall bear and promptly pay all statutory taxes, duties, levies and cess, assessed/levied on the TSP, its Contractors or their employees that are required to

## Transmission Service Agreement

be paid by the TSP as per the Law in relation to the execution of the Project and for providing Transmission Service as per the terms of this Agreement.

**19.9.2** The Nodal Agency shall be indemnified and held harmless by the TSP against any claims that may be made against the Nodal Agency in relation to the matters set out in Article 19.9.1.

**19.9.3** The Nodal Agency shall not be liable for any payment of, taxes, duties, levies, cess whatsoever for discharging any obligation of the TSP by the Nodal Agency on behalf of TSP or its personnel, provided the TSP has consented in writing to the Nodal Agency for such work, for which consent shall not be unreasonably withheld.

**19.10 No Consequential or Indirect Losses**

The liability of the TSP shall be limited to that explicitly provided in this Agreement.

Provided that, notwithstanding anything contained in this Agreement, under no event shall the Nodal Agency or the TSP claim from one another any indirect or consequential losses or damages.

**19.11 Discretion:**

Except where this Agreement expressly requires a Party to act fairly or reasonably, a Party may exercise any discretion given to it under this Agreement in any way it deems fit.

**19.12 Confidentiality**

**19.12.1** The Parties undertake to hold in confidence this Agreement and RFP Project Documents and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:

- (a) to their professional advisors;
- (b) to their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities; or
- (c) disclosures required under Law,

without the prior written consent of the other Parties.

Provided that, the TSP agrees and acknowledges that the Nodal Agency, may, at any time, disclose the terms and conditions of the Agreement and the RFP Project Documents to any person, to the extent stipulated under the Law and the

## Competitive Bidding Guidelines.

**19.13 Order of priority in application:**

Save as provided in Article 2.5, in case of inconsistencies between the terms and conditions stipulated in Transmission License issued by the Commission to the TSP, agreement(s) executed between the Parties, applicable Law including rules and regulations framed thereunder, the order of priority as between them shall be the order in which they are placed below:

- terms and conditions of Transmission License;
- applicable Law, rules and regulations framed thereunder;
- this Agreement;
- Agreement(s), if any, under Sharing Regulations.

**19.14 Independent Entity:**

19.14.1 The TSP shall be an independent entity performing its obligations pursuant to the Agreement.

19.14.2 Subject to the provisions of the Agreement, the TSP shall be solely responsible for the manner in which its obligations under this Agreement are to be performed. All employees and representatives of the TSP or Contractors engaged by the TSP in connection with the performance of the Agreement shall be under the complete control of the TSP and shall not be deemed to be employees, representatives, Contractors of the Nodal Agency and nothing contained in the Agreement or in any agreement or contract awarded by the TSP shall be construed to create any contractual relationship between any such employees, representatives or Contractors and the Nodal Agency.

**19.15 Amendments:**

19.15.1 This Agreement may only be amended or supplemented by a written agreement between the Parties.

**19.16 Waiver:**

19.16.1 No waiver by either Party of any default or breach by the other Party in the performance of any of the provisions of this Agreement shall be effective unless in writing duly executed by an authorised representative of such Party.

19.16.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement nor time or other

## Transmission Service Agreement

indulgence granted by one Party to the other Parties shall act as a waiver of such breach or acceptance of any variation or the relinquishment of any such right or any other right under this Agreement, which shall remain in full force and effect.

**19.17 Relationship of the Parties:**

This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership or agency or any such other relationship between the Parties or to impose any partnership obligation or liability upon either Party and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

**19.18 Entirety:**

19.18.1 This Agreement along with its sections, schedules and appendices is intended by the Parties as the final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement.

19.18.2 Except as provided in this Agreement, all prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement or the provision of Transmission Service under this Agreement to the Nodal Agency by the TSP shall stand superseded and abrogated.

**19.19 Notices:**

19.19.1 All notices or other communications which are required to be given under this Agreement shall be in writing and in the English language

19.19.2 If to the TSP, all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addressee below:

Address :

Attention :

Email :

Fax. No. :

Telephone No.:

19.19.3 If to the Nodal Agency, all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addresses below:

(i) ..... [Insert Name of the Nodal Agency]

## Transmission Service Agreement

Address :  
 Attention :  
 Email :  
 Fax. No. :  
 Telephone No.:

- 19.19.4 All notices or communications given by facsimile shall be confirmed by sending a copy of the same via post office in an envelope properly addressed to the appropriate Party for delivery by registered mail. All notices shall be deemed validly delivered upon receipt evidenced by an acknowledgement of the recipient, unless the Party delivering the notice can prove in case of delivery through the registered post that the recipient refused to acknowledge the receipt of the notice despite efforts of the postal authorities.
- 19.19.5 Any Party may by notice of at least fifteen (15) days to the other Party change the address and/or addresses to which such notices and communications to it are to be delivered or mailed.

#### **19.20 Fraudulent and Corrupt Practices**

- 19.20.1 The TSP and its respective officers, employees, agents and advisers shall observe the highest standard of ethics during the subsistence of this Agreement. Notwithstanding anything to the contrary contained in the Agreement, the Nodal Agency may terminate the Agreement without being liable in any manner whatsoever to the TSP, if it determines that the TSP has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bid process. In such an event, the Nodal Agency shall forfeit the Contract Performance Guarantee of the TSP, without prejudice to any other right or remedy that may be available to the Nodal Agency hereunder or subsistence otherwise.
- 19.20.2 Without prejudice to the rights of the Nodal Agency under Clause 19.20.1 hereinabove and the rights and remedies which the Nodal Agency may have under this Agreement, if a TSP is found by the Nodal Agency to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bid process, or after the issue of Letter of Intent (hereinafter referred to as LoI) or after the execution of the agreement(s) required under Sharing Regulations, the Nodal Agency may terminate the Agreement without being liable in any manner whatsoever to the TSP. Further, the TSP & its Affiliates shall not be eligible to participate in any tender or RFP issued by any BPC for an indefinite period from the date such TSP is found by the Nodal Agency to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices,

as the case may be.

19.20.3 For the purposes of this Clause 19.20, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) **“corrupt practice”** means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bid process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the BPC who is or has been associated or dealt in any manner, directly or indirectly with the Bid process or the LoI or has dealt with matters concerning the RFP Project Documents or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the BPC, shall be deemed to constitute influencing the actions of a person connected with the Bid Process); or (ii) engaging in any manner whatsoever, whether during the Bid Process or after the issue of the LoI or after the execution of the RFP Project Documents, as the case may be, any person in respect of any matter relating to the Project or the LoI or the RFP Project Documents, who at any time has been or is a legal, financial or technical adviser of the BPC in relation to any matter concerning the Project;

(b) **“fraudulent practice”** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bid process;

(c) **“coercive practice”** means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person’s participation or action in the Bid process;

(d) **“undesirable practice”** means (i) establishing contact with any person connected with or employed or engaged by the BPC with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bid process; or (ii) having a Conflict of Interest; and

(e) **“restrictive practice”** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bid process;

#### 19.21 Compliance with Law:

Despite anything contained in this Agreement but without prejudice to Article 12, if any provision of this Agreement shall be in deviation or inconsistent with or repugnant to the provisions contained in the Electricity Act, 2003, or any rules and regulations made there under, such provision shall be deemed to be amended to the extent required to bring it into compliance with the aforesaid relevant provisions

## Transmission Service Agreement

as amended from time to time.

**IN WITNESS WHEREOF, THE PARTIES HAVE CAUSED THIS AGREEMENT TO BE EXECUTED BY THEIR DULY AUTHORISED REPRESENTATIVES AS OF THE DATE AND PLACE SET FORTH ABOVE.**

1. For and on behalf of TSP

.....

[Signature, Name, Designation and Address]

2. For and on behalf of .....[Insert name of the Nodal Agency]

.....

[Signature, Name, Designation and Address]

**WITNESSES:**

1. For and on behalf of  
: BPC

.....  
[Signature]

.....  
[Insert, Name, Designation and Address of the Witness]

2. For and on behalf of  
: Nodal Agency

.....  
[Signature]

.....  
[Insert Name, Designation and Address of the Witness]

# SCHEDULES





**Schedule: 1****Project Description and Scope of Project****Scope of the Project:**

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
1.	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVar, 765 kV &amp; 1x125 MVar, 420 kV bus reactor</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV, 1500 MVA ICT – 2 Nos.(7x500 MVA 1-phase units including one spare ICT unit)</li> <li>➤ 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>➤ 765 kV ICT bays – 2 Nos.</li> <li>➤ 400 kV ICT bays – 4 Nos.</li> <li>➤ 220 kV ICT bays – 2 Nos.</li> <li>➤ 765 kV Line bays – 2 Nos.</li> <li>➤ 330 MVar, 765 kV Bus Reactor – 1 No. (4x 110 MVar including one spare unit)</li> <li>➤ 125 MVar, 420 kV Bus reactor – 1 No.</li> <li>➤ 765 kV Bus reactor bay: 1 No.</li> <li>➤ 400 kV Bus reactor bay: 1 No.</li> <li>➤ 220 kV Bus coupler bay- 1 No.</li> <li>➤ 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> <li>➤ 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> </ul> <p>Future provisions:</p> <p>Space for</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</li> </ul>	24 months

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
	<ul style="list-style-type: none"> <li>➤ 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 set</li> <li>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>➤ 400/220 kV ICT along with bays -7 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 12 Nos.</li> <li>➤ 220 kV Sectionalization bay: 2 sets</li> <li>➤ 220 kV BC and TBC: 2 Nos</li> </ul>	
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	

#220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur –Tikamgarh 220 kV 2nd ckt is currently under implementation)

**Note:**

(i) *Implementation timeframe: 24 months from date of SPV transfer.*

(ii) *MPPTCL shall execute downstream network in matching time-frame of ISTS system.*

**Project Description**

The scheme has been primarily conceived to cater to the loads in Chhatarpur, Tikamgarh & Jatara areas along with other Bulk Consumer loads envisaged in the area in future. Accordingly, joint studies were carried out and a new Substation at Ishanagar has been proposed. Further, NTPC is in the process of establishing a 630 MW solar project in Barethi area and it has been intimated that it would not be possible for NTPC to construct dedicated transmission line upto the nearest Chhatarpur PS in Bijawar area (planned for connectivity of 950MW RUMS SP), on account of the transmission line passing through Panna Tiger Reserve. In view of all of above, a new substation near Ishanagar was planned whereby MPPTCL would also be able to draw power through downstream system to cater to the electricity demand of Chhatarpur, Tikamgarh & Jatara areas along with Bulk Consumer loads and NTPC would as well be able to interconnect their 630MW Barethi SP with the planned Ishanagar Substation (located at distance of ~30-40 km).

The proposed scheme WRES-XXXIII: Part C includes establishment of 765/400 kV, 2x1500 MVA ICTs and 400/220 kV, 2x500 MVA ICTs at Ishanagar (New) with LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New) and the associated 220kV downstream system shall be implemented by MPPTCL.

## Transmission Service Agreement

The subject transmission system was deliberated and approved in the 11th NCT meeting held on 28.12.2022 and 17.01.2023. Ministry of Power vide Gazette notification 1644 dated 13.04.2023 has appointed REC Power Development and Consultancy Limited as BPC for implementation of the subject transmission scheme through TBCB route.

**SPECIFIC TECHNICAL REQUIREMENTS FOR TRANSMISSION LINE**

- A.1.0 The design, routing and construction of transmission lines shall be in accordance with Chapter V, Part A of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.
- A.2.0 Selection of tower type shall be made as per CEA Regulations, however in case lattice type towers are used, the following shall also be applicable:
- A.2.1 Steel section of grade E 250 and/or grade E 350 as per IS 2062, only are permitted for use in towers, extensions, gantry structures and stub setting templates. For towers in snowbound areas, steel sections shall conform to Grade-C of IS-2062.
- A.2.2 Towers shall be designed as per IS-802:2015, however the drag coefficient of the tower shall be as follows: -

<b>Solidity Ratio</b>	<b>Drag Coefficient</b>
Upto 0.05	3.6
0.1	3.4
0.2	2.9
0.3	2.5
0.4	2.2
0.5 and above	2.0

- A.3.0 Transmission Service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.
- A.4.0 Transmission line shall be designed considering wind zones as specified in wind map given in National Building Code 2016, Vol.1. The developer shall also make his own assessment of local wind conditions and frequent occurrences of high intensity winds (HIW) due to thunderstorms, dust-storms, downburst etc. along the line route and wherever required, higher wind zone than that given in wind map shall be considered for tower design for ensuring reliability of line. Further, for transmission line sections passing within a distance of 50 km from the boundary of two wind zones, higher of the two wind zones shall be considered for design of towers located in such sections.
- A.5.0 Selection of reliability level for design of tower shall be as per CEA Regulation (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time.
- A.6.0 A) For power line crossing of 400kV or above voltage level (if crossed over the existing line), large angle & dead end towers (i.e. D/DD/QD) shall be used on either side of power line crossing.

- B) For power line crossing of 132kV and 220kV (or 230kV) voltage level, angle towers (B/C/D/DB/DC/DD/QB/QC/QD) shall be used on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- C) For power line crossing of 66kV and below voltage level, suspension/tension towers shall be provided on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- D) For crossing of railway tracks, national highways and state highways, the Rules/Regulations of appropriate authorities shall be followed.

A.7.0 The relevant conductor configuration shall be as follows: -

Transmission line	ACSR Conductor specified	Equivalent AAAC conductor based on 53.5% conductivity of Al Alloy	Equivalent minimum size of AL59 conductor based on 59% conductivity of AL Alloy*	Sub-conductor Spacing
765kV D/C (Hexa Zebra) transmission lines	<p>Zebra : Stranding 54/3.18 mm-Al + 7/3.18 mm-Steel, 428 sq mm, Aluminium area, 28.62 mm diameter</p> <p>Maximum DC Resistance at 20°C (<math>\Omega</math>/km): 0.06868</p> <p>Minimum UTS: 130.32 kN</p>	<p>Stranding details: 61/3.19mm, 28.71 mm diameter; 487.5 sq.mm Aluminium alloy area</p> <p>Maximum DC Resistance at 20°C (<math>\Omega</math>/km): 0.06815</p> <p>Minimum UTS: 135.6 kN</p>	<p>Stranding details: 61/3.08mm, 27.72 mm diameter; 454 sq.mm Aluminium alloy area</p> <p>Maximum DC Resistance at 20°C (<math>\Omega</math>/km): 0.0653</p> <p>Minimum UTS: 108 kN</p>	457 mm

Note:

\*1. To select any size above the minimum, the sizes mentioned in the relevant Indian standard i.e IS-398(part-6) shall be followed.

2. The transmission lines shall have to be designed for a maximum operating conductor temperature of 85 deg C.

A.8.0 The required phase to phase spacing and horizontal spacing for 765kV line shall be governed by the tower design as well as minimum live metal clearances for 765kV voltage level under different insulator swing angles. However, the phase to phase spacing for 765kV line shall not be less than 15 m.

A.9.0 Electrical clearances including minimum live metal clearance, ground clearance and minimum mid span separation between earth wire and conductor as given below shall be considered:

a) Minimum live metal clearances for 765 kV line:

(i) Under stationary conditions

From tower body: For 765 kV D/C: 6.1 m

For 765 kV S/C: 5.6 m

(ii) Under swing conditions

Wind pressure Condition	Minimum electrical clearance
a) Swing angle (25°)	4.4 m
b) Swing angle (55°)	1.3 m

b) Minimum ground clearance: 18 m

c) Minimum mid span separation between earthwire and conductor: 9.0 m

A.10.0 Shielding angle shall not exceed 10 deg for 765kV D/C Line transmission line.

A.11.0 The Fault current for design of line shall be 50kA for 1 sec for 765kV.

A.12.0 In case of 765kV voltage class lines, at least one out of two earth wires shall be OPGW and second earth wire, if not OPGW, shall be either of galvanized standard steel (GSS) or AACSR or any other suitable conductor type depending upon span length and other technical consideration.

- A.13.0 Each tower shall be earthed such that tower footing impedance does not exceed 10 ohm. Pipe type or Counterpoise type earthing shall be provided in accordance with relevant IS. Additional earthing shall be provided on every 7 to 8 km distance for direct earthing of both shield wires. If site condition demands, multiple earthing or use of earthing enhancement compound shall be used.
- A.14.0 Pile type foundation shall be used for towers located in river or creek bed or on bank of river having scourable strata or in areas where river flow or change in river course is anticipated, based on detailed soil investigation and previous years' maximum flood discharge of the river, maximum velocity of water, highest flood level, scour depth & anticipated change in course of river based on river morphology data of at least past 20 years to ensure availability and reliability of the transmission line.
- A.15.0 Transmission line route shall be finalized, in consultation with appropriate authorities so as to avoid the habitat zones of endangered species and other protected species. Bird diverters, wherever required, shall be provided on the line.
- A.16.0 Wherever, transmission lines are passing through cyclone prone areas i.e. areas upto 60 km from coast following shall also be applicable:
- a) Terrain category-I, with terrain roughness factor ( $K_2$ ) of 1.08 shall be considered for tower design for exposed open terrain with few or no obstruction which also includes open sea coasts, open stretch of water, desert and flat treeless plains
  - b) Importance factor for cyclonic region ( $K_4$ ) of 1.3 shall be considered for tower design.
  - c) The number of consecutive spans between the section points/ angle point shall not exceed 10 spans or 3 km instead of conventional practice of 15 spans or 5 km, in order to reduce the failure of such towers in coastal areas due to cascading effect. The section shall be terminated with tension tower/ angle tower and angle of deviation should be based on the site requirement.
- A.17.0 Wherever, transmission lines are passing through cyclone prone areas (i.e. areas upto 60 km from coast)/ creek regions/ aggressive soil areas following shall also be applicable:
- a) The fabricated tower parts and stubs shall have a minimum overall zinc coating of 900 g/m<sup>2</sup> of surface area except for plates and sections below 5 mm which shall have a minimum overall zinc coating of 610 g/m<sup>2</sup> of surface area. The average zinc coating for all sections and plates 5 mm and above shall be maintained as 127 microns and that for plates and sections below 5 mm shall be maintained as 87 microns.
  - b) Ready mix concrete of M30 Grade shall be used to avoid use of locally available saline water. However, design mix concrete of M30 Grade conforming to IS 456 with potable water can be used at locations where transportation of ready-mix concrete is not feasible. Minimum cement content in any case shall not be less than 330 kg/m<sup>3</sup>.



- c) The surface of the reinforced steel shall be treated with epoxy-based coating to enhance corrosion performance of foundation. Use of epoxy coated reinforcement in foundation shall be as per IS 13620. In addition, two (2) coats of bituminous painting of minimum  $1.6 \text{ kg/m}^2$  per coat shall be applied on all exposed faces of foundation (i.e. pedestal & base slab).
  - d) Double coat of 20 mm thick cement plaster shall be provided on all exposed concrete surface as well up to 300 mm below ground level to give protection to concrete surface from environmental and saline effect.
  - e) Before coping of chimney top portion, three coats of anti-corrosive paint of minimum 30-35 microns dry film thickness each shall be applied on the stub in the 50 mm coping portion as well as up to 350 mm above CL portion.
- A.18.0 The raised chimney foundation is to be provided in areas prone to flooding/water stagnation like paddy field /agricultural field & undulated areas to avoid direct contact of water with steel part of tower. The top of the chimney of foundation should be at least above HFL (High Flood Level) or the historical water stagnation/ logging level (based on locally available data) or above High Tide Level or 500 mm above Natural Ground level (whichever is higher).
- A.19.0 Routing of transmission line through protected areas of India shall be avoided to the extent possible. In case, it is not possible to avoid protected areas, the towers of the transmission line upto 400 kV level which are installed in protected areas shall be designed for Multi-circuit (4 circuits) configuration of same voltage level considering reliability level of at least two (2). The top two circuits of these multi-circuit towers shall be used for stringing of the transmission line under present scope and the bottom two circuits shall be made available for stringing of any future transmission line of any transmission service providers/ State transmission utilities/Central transmission utilities passing through the same protected area. Further, the configuration and coordinates of such transmission towers shall be submitted to CEA, CTU & BPC by the TSP.
- A.20.0 The TSP shall abide by the Guidelines of CEA w.r.t. shifting of transmission lines for NHAI projects and other projects.

### **SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION**

The proposed **765/400/220kV Ishanagar (New) Substation** shall be conventional AIS type generally conforming to the requirements of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022 as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.

#### **B.1.0 Salient features of Substation Equipment and Facilities**

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

#### **B.1.1 Insulation Coordination**

The system design parameters for substations/switchyards shall be as given below:

Sl. No	Description of parameters	765/400/220kV Ishanagar (New) S/S		
		765 kV System	400 kV System	220 kV System
1.	System operating voltage	765kV	400kV	220kV
2.	Maximum voltage of the system (rms)	800kV	420kV	245kV
3.	Rated frequency	50Hz	50Hz	50Hz
4.	No. of phase	3	3	3
5.	Rated Insulation levels			
i)	Lighting Impulse withstand voltage for (1.2/50 micro sec.) - for Equipment other than Transformer and Reactors - for Insulator String	2100kVp 2100kVp	1425kVp 1550kVp	1050kVp 1050kVp
ii)	Switching impulse withstand voltage (250/2500 micro sec.) dry and wet	1550kVp	1050kVp	-
iii)	One minute power frequency dry withstand voltage (rms)	830 kV	630 kV	-
iv)	One minute power frequency dry and wet withstand voltage (rms)	-	-	460kV
6.	Corona extinction voltage	508 kV	320kV	-

Sl. No	Description of parameters	765/400/220kV Ishanagar (New) S/S		
		765 kV System	400 kV System	220 kV System
7.	Max. radio interference voltage for frequency between 0.5 MHz and 2 MHz	2500 micro-volts at 508kV rms	1000 micro-volts at 266kV rms	1000 micro-volts at 156kV rms
8.	Minimum creepage distance for insulator string/ longrod insulators/ outdoor bushings	24800 mm (31mm/kV)	13020 mm (31mm/kV)	7595 mm (31mm/kV)
9.	Minimum creepage distance for switchyard equipment	20000 mm (25mm/kV)	10500mm (25mm/kV)	6125 mm (25mm/kV)
10.	Max. fault current	50kA	63kA	50kA
11.	Duration of fault	1 Sec	1 sec	1 Sec

### B.1.2 Switching Scheme

The switching schemes, as mentioned below, shall be adopted at various voltage levels of substation/switchyard:

Substation	765kV side	400kV side	220kV side
<b>765/400/220 kV Ishanagar (New) S/S (AIS)</b>	One & half breaker	One & half breaker	Double Main & Transfer

Notes: -

- i) For one and half breaker switching scheme, any double circuit line consisting of two numbers feeders and originating from the same transmission or generating switchyard shall not be terminated in one diameter.
- ii) Two transformers of same HV rating shall not be connected in the same diameter and similarly two bus reactors of same HV rating shall also not be connected in the same diameter.
- iii) A diameter in one and half breaker scheme is a set of 3 circuit breakers with associated isolators, earth switches, current transformers etc. for controlling of 2 numbers feeders.
- iv) Connection arrangement of Switchable Line reactors shall be such that it can be used as Line reactor as well as Bus reactor with suitable NGR bypass arrangement.
- v) Bus sectionalizer;  
 One (1) set of bus sectionalizer for 765kV & 400 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.  
 One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of bus sectionalizer bays with

*associated Circuit Breakers, Isolators and Current Transformers for both buses.*

- vi) *TSP shall plan distribution of line and transformer feeders to bus bar in such a way that all power can be evacuated successfully without crossing thermal limit at any point of bus-bar.*
- vii) *For AIS type substation, TSP shall keep space provisions for future elements such that interconnection arrangement to the corresponding future bays can be done with overhead AIS type connection without any cable/ GIS duct.*

#### **B.2.0 Substation Equipment and facilities (Voltage level as applicable):**

The switchgear shall be designed and specified to withstand operating conditions and duty requirements. All equipment shall be designed considering the following capacity.

Sl.No	Description of bay	765/400/220 kV Ishanagar (New) S/S		
		765kV	400kV	220 kV
1.	Bus Bar	4000A	4000A	3000A
2.	Line bay	3150A	3150A	1600A
3.	ICT bay	3150A	3150A	1600A
4.	Bus Reactor bay	3150A	3150A	N/A
5.	Bus Coupler bay	N/A	N/A	3000A
6.	Transfer Bus coupler bay	N/A	N/A	1600A

#### **B.2.1 (765/√3)/(400/√3)/33 kV, Single Phase Autotransformer**

500 MVA, (765/√3)/(400/√3)/33kV, 1-phase autotransformer (including arrangement for 3-phase bank formation of 1500 MVA) shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended upto date available on CEA website.

Spare 1-phase Transformer unit shall be placed and connected in such a way that the spare unit can be utilized to replace any unit of any of the transformer banks (including for future transformer banks) without physically moving it.

#### **B.2.2 (765/√3) kV, Single Phase Shunt Reactor**

110 MVAR, 765/√3 kV, 1-Phase Reactor (including arrangement for 3-phase bank formation of 330MVAR) shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended upto date available on CEA website.

Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and line reactor banks (including for future reactor banks) without its physical movement.

**B.2.3 400/220/33kV, 3-phase Autotransformer**

500 MVA 400/220/33kV, 3-phase autotransformer shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended up to date available on CEA website.

**B.2.4 420kV, 3-Phase, Shunt Reactor**

125 MVAR, 420 KV, 3-Phase Reactor shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended up to date available on CEA website.

**B.2.5 765kV, 400kV & 220kV AIS Substation equipment (as applicable)****B.2.5.1 Circuit Breakers (AIS)**

The circuit breakers and accessories shall conform to IEC: 62271-100, IEC: 62271-1 and shall be of SF6 Type. The circuit breakers shall be of class C2-M2 (as per IEC) with regard to restrike probability during capacitive current breaking and mechanical endurance. The rated break time shall not exceed 40 ms for 765 kV & 400 kV circuit breakers and 60 ms for 220 kV circuit breakers. The Circuit breakers controlling 765 kV lines shall be provided with pre-insertion closing resistor of about 450 ohms maximum with 9 ms insertion time or Controlled Switching Device. The Circuit breakers controlling 400kV lines shall be provided with pre insertion closing resistor of about 400 ohms with 8 ms insertion time or Controlled Switching Device (CSD) for lines longer than 200 km. 765kV, 400kV and 220kV 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. The controlled switching device shall be provided in Circuit breakers of switchable line reactor bay and in Main & Tie bay circuit breakers of line with non-switchable line reactors, Bus reactors and Transformers of 400kV & above voltage class.

**B.2.5.2 Isolators (AIS)**

The isolators shall comply to IEC 62271-102 in general. 765 kV Isolator design shall be double break or vertical break or knee-type. 400 kV & 220 kV isolator shall be double break type. All Isolators and earth switches shall be motor operated. Earth switches shall be provided at various locations to facilitate maintenance. Isolator rated for 765kV, 400 kV & 220 kV shall be of extended mechanical endurance class – M2 and suitable for bus transfer current switching duty as per IEC-62271-102. Main blades and earth blades shall be interlocked and interlock shall be fail safe type. 765 kV, 400 kV & 220 kV earth switches for line isolator shall be suitable for induced current switching duty as defined for Class-B

**B.2.5.3 Current Transformers (AIS)**

Current Transformers shall comply with IEC 61869 in general. All ratios shall be obtained by secondary taps only. Generally, Current Transformers (CT) for 765 kV & 400 kV shall have six cores (four for protection and two for metering). 220 kV Current Transformers shall have five cores (four for protection and one 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 it shall be 0.2S. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 20VA for metering core) for better sensitivity and accuracy. The instrument security factor shall be less than 5 for CTs upto 400 kV and less than 10 for CTs of 765 kV voltage class.

#### **B.2.5.4 Capacitive Voltage Transformers (AIS)**

Capacitive Voltage transformers shall comply with IEC 61869 in general. These shall have three secondaries out of which two shall be used for protection and one for metering. Accuracy class for protection cores shall be 3P and for metering core shall be 0.2. The Capacitive voltage transformers on lines shall be suitable for Carrier Coupling. The Capacitance of CVT for 400 kV and 220 kV shall be of 4400/8800 pF depending on PLCC requirements whereas the Capacitance of CVT for 765kV shall be 8800 pF. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 50VA for metering core) for better sensitivity and accuracy.

#### **B.2.5.5 Surge Arresters (AIS)**

624 kV & 336 kV Station High (SH) duty gapless type Surge arresters with thermal energy ( $W_{th}$ ) of minimum 13 kJ/kV and 12 kJ/kV conforming to IEC 60099-4 in general shall be provided for 765 kV and 400 kV systems respectively. 216 kV Station Medium (SM) duty gapless type Surge arresters with thermal energy ( $W_{th}$ ) of minimum 7 kJ/kV conforming to IEC 60099-4 in general shall be provided for 220 kV systems. Other characteristics of Surge arrester shall be chosen in accordance with system requirements. Surge arresters shall be provided near line entrances, Transformers & Reactor so as to achieve proper insulation coordination. Surge Arresters shall be provided with porcelain/ polymer housing fitted with pressure relief devices. A leakage current monitor with surge counter shall be provided with each surge arrester.

#### **B.2.6 Protection Relaying & Control System**

The protective relaying system proposed to be provided for transmission lines, auto-transformers, reactors and bus bars to minimize the damage to the equipment in the events

of faults and abnormal conditions, is dealt in this section. All main protective relays shall be numerical type with IEC 61850 communication interface and should have Interoperability during integration of numerical relays to communicate over IEC 61850 protocol with RTU/SAS/IEDs of different OEMs. All numerical relays shall have built in disturbance recording feature.

The protection circuits and relays of transformer and reactor shall be electrically and physically segregated into two groups each being independent and capable of providing uninterrupted protection even in the event of one of the protection groups failing, to obtain redundancy, and to take protection systems out for maintenance while the equipment remains in service.

#### **a) Transmission Lines Protection**

765kV, 400kV and 220kV lines shall have Main-I numerical three zone distance protection scheme with carrier aided inter-tripping feature. 765kV, 400kV and 220kV lines shall also have Main-II numerical distance protection scheme like Main-I but from different make that of Main-I. The Main-I and Main-II protection relays of same make may be provided only if they are of different hardware & manufacturing platform or different principle of operation.

However, Line Current Differential relay (with back up distance protection feature) as Main-I and Main-II shall be considered at both ends for short lines (line length below 30km) having Fibre Optic communication link. Differential relay at remote end shall be provided by the TSP. Associated power & control cabling and integration with SAS at remote end shall be provided by respective bay owner.

In case of 220kV line bays where the line lengths are not indicated, Numerical Distance protection relay as Main-I and Line Current differential relay (with back up distance protection feature) as Main-II shall be provided. Further, in such case, the matching line current differential relay for remote end shall be provided by the remote end bay owner.

Further, all 765 kV, 400 kV and 220 kV lines shall be provided with single and three phase auto- reclosing facility to allow reclosing of circuit breakers in case of transient faults. These lines shall also be provided with distance to fault locators to identify the location of fault on transmission lines.

All 765 kV & 400 kV lines shall also be provided with two stages over voltage protection. Over voltage protection & distance to fault locator may be provided as in-built feature of Main-I & Main-II protection relays. Auto reclose as built-in function of Bay Control Unit (BCU) is also acceptable.

The Main-I and Main-II protection relays shall be fed from separate DC sources and shall be mounted in separate panels.

For 765 kV, 400 kV and 220 kV transmission lines, directional IDMT earth fault relay should be provided as standalone unit or in-built feature of Main-I and Main -II feature.

**b) Auto Transformer Protection**

These shall have the following protections:

- i) Numerical Differential protection
- ii) Numerical Restricted earth fault protection
- iii) Numerical Back-up Over-current and earth fault protection on HV & MV side
- iv) Numerical Over fluxing protection on HV & MV side
- v) Numerical Overload alarm

Further, Numerical Back-up Over-current and earth fault protection on HV & MV side of autotransformer shall not be combined with other protective functions in the main relays and shall be independent relays. Besides these, power transformers shall also be provided with Buchholz relay, Magnetic Oil Gauge (MOG) with low oil level alarm, protection against high oil and winding temperature and pressure relief device etc.

Suitable monitoring, control (operation of associated circuit breaker & isolator) and protection for LT auxiliary transformer connected to tertiary winding of auto-transformer for the purpose of auxiliary supply shall be provided. The Over current and other necessary protection shall be provided for the auxiliary transformer. These protection and control may be provided as built in feature either in the bay controller to be provided for the auxiliary system or in the control & protection IEDs to be provided for autotransformer.

**c) Reactor Protection**

Reactor shall be provided with the following protections:

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

Besides these, reactors shall also be provided with Buchholz relay, MOG with low oil level alarm, protection against oil and winding temperatures & pressure relief device, etc.

**d) Bus bar Protection**

The high speed low impedance type 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 765kV, 400kV and 220kV buses. Duplicated bus bar protection is envisaged for 765kV & 400kV bus-bar protection. Bus bar protection scheme shall be such that it operates selectively for each bus and incorporate necessary features required for ensuring security. The scheme shall have complete bus bar protection for present as well as future bays envisaged i.e. input / output modules for future bays shall also be provided.

Bus Bar protection system for new substation shall be de-centralized (distributed) type.

In case, the bus section is provided, then each side of bus section shall have separate set of bus-bar protection schemes.

For existing substations, the existing bus bar protection shall be augmented as per requirement.

**e) Local Breaker Back up Protection**

This shall be provided for each 765kV, 400kV and 220kV circuit breakers and will be connected to de-energize the affected stuck breaker from both sides.

*Notes:*

1. *LBB & REF relays shall be provided separately from transformer differential relay.*
2. *LBB relay may also be provided as built-in protection function of distributed bus bar protection scheme; however, in such case separate LBB relay shall be provided for tie bays (in case of One and Half breaker scheme).*
3. *Over fluxing & overload protection can be provided as built-in feature of differential relay.*
4. *In 765kV & 400kV switchyard, if spare bay of half diameter is identified as future, Tie CB relay panel shall be with Auto-reclosure feature.*

## **B.2.7 Substation Automation System**

- a)** For all the new substations, state of art Substation Automation System (SAS) conforming to IEC-61850 shall be provided. The distributed architecture shall be used for Substation Automation system, where the controls shall be provided through Bay control units. The Bay control unit is to be provided bay wise for voltage level 220kV 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 circuit breaker, dis-connector, re-setting of relays etc. can be done from Human Machine Interface (HMI) from the control room.

The functions of control, annunciation, disturbance recording, event logging and measurement of electrical parameters shall be integrated in Substation Automation System.

At new substations, the Substation Automation System (SAS) shall be suitable for operation and monitoring of the complete substation including proposed future bays/elements.

In existing substations with Substation automation system (SAS), augmentation of existing SAS shall be done for bays under present scope.

In existing Substations where Substation automation is not provided, control functions shall be done through control panels.

Necessary gateway & modems (as required) shall be provided to send data to RLDC/SLDC as per their requirement. Any augmentation work at RLDC/SLDC is excluded from TSP's scope. However, all the configuration work at substation end required to send data to RLDC/SLDC shall be in the scope of TSP.

**b) Time synchronization equipment**

Time synchronization equipment complete in all respect including antenna, cable, processing equipment required to receive time signal through GPS or from National Physical Laboratory (NPL) through INSAT shall be provided at new substations. This equipment shall be used to synchronize SAS & IEDs etc.

**B.2.8 Phasor Measurement Units (PMUs)**

TSP shall supply, install & commission required no. of Phasor Measurement Units (PMUs) for all 400kV and above voltage line bays under the scope of work and PMUs shall support latest IEEE C-37.118 protocols. The supplied PMUs may be mounted in the C&R/SAS panels. These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room with Fibre Optic cable which shall further be interfaced with the FOTE. These PMUs shall be integrated with the existing PDC (Phasor Data Concentrator) located at respective RLDC. Configuration work in existing PDC at RLDC for new PMU integration is not in scope of TSP (shall be done by respective RLDC), however all the necessary co-ordination and support in this regard shall be ensured by TSP.

In case of bay extensions work, TSP shall also provide separate WAMS (PMU, switches, interface cabling and other associated accessories) required for extended bays at existing s/s.

**B.3.0 Substation Support facilities**

Certain facilities required for operation & maintenance of substations as described below shall be provided at new substation. In existing substation, these facilities have already been provided and would be extended/ augmented as per requirement.

**B.3.1 AC & DC power supplies**

For catering the requirements of three phase & single phase AC supply and DC supply for various substation equipment (for present and future scope), the following arrangement is envisaged:-

- (i) For LT Supply at each new Substation, two (2) nos. of auxiliary Transformers (minimum 800kVA for substations with highest voltage rating as 765kV) shall be provided which shall be fed from two independent sources as per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007.

Metering arrangement with Special Energy Meters (SEMs) shall be provided by TSP at 33kV tertiary of Transformer for drawing auxiliary supply at new substation. Such SEMs shall be provided by CTU at the cost of the TSP. Accounting of such energy drawn by the TSP shall be done by RLDC/RPC as part of Regional Energy Accounting.

Additionally, Active Energy Meters may be provided at the same point in the 33kV tertiary of Transformer by local SEB/DISCOM for energy accounting.

- (ii) 2 sets of 220V battery banks for control & protection and 2 sets of 48V battery banks for PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall have a float-cum-boost charger.

At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS. 2 sets of 48 V battery banks for PLCC and communication equipment for present and future scope shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required 48 V DC can be achieved from 220 V DC battery bank using adapter, if so desired by TSP, without compromising backup time.

- (iii) Suitable AC & DC distribution boards and associated LT Switchgear shall be provided at new substation.

For new substation, following switch boards shall be considered with duplicate supply with bus coupler/ sectionalizer and duplicate outgoing feeders except for Emergency lighting distribution board which shall have only one incoming feeder:

- (a) 415V Main Switch board – 1 nos.
- (b) AC distribution board – 1 nos.
- (c) Main lighting distribution board – 1 no.
- (d) Emergency lighting distribution board – 1 no.
- (e) 220 Volt DC distribution board – 2 nos.
- (f) 48 Volt DC distribution board – 2 nos.

Sizing of LT Switchgear shall be suitable to cater the requirement for all present and future bays. AC & DC distribution boards shall have equipped modules for all the feeders (including future as specified).

- (iv) At new Substation, one no. of DG set (minimum 500kVA for substations with highest voltage rating as 765kV) shall be provided for emergency applications.
- (v) For substation extensions, existing facilities shall be augmented as required.

### **B.3.2 Fire Fighting System**

Fire-fighting system for substation including transformer & reactor shall conform to CEA (Measures Relating to Safety & Electric Supply) Regulations.

Further, adequate water hydrants and portable fire extinguishers shall be provided in the substations. The main header of firefighting system shall be suitable for extension to bays covered under the future scope; necessary piping interface in this regard shall be provided.

Optical Beam type heat detection for GIS hall fire protection system shall be provided for all the GIS halls.

At existing substations, the fire-fighting systems as available shall be extended to meet the additional requirements.

### **B.3.3 Oil evacuating, filtering, testing & filling apparatus**

To monitor the quality of oil for satisfactory performance of transformers, shunt reactors and for periodical maintenance necessary oil evacuating, filtering, testing and filling apparatus would be provided at new substations. Oil storage tanks of adequate capacities for storage of transformer oil would be provided.

### **B 3.4 Illumination**

Normal & emergency AC & DC illumination shall be provided adequately in the control room & other buildings of the substation. The switchyard shall also be provided with adequate illumination.

Lighting of the entire control room building, fire-fighting pump house, other building (if any) and switchyard shall be done by LED based low power consumption luminaires.

### **B.3.5 Control Room**

For new substation, substation control room shall be provided to house substation work stations for station level control (SAS) along with its peripheral and recording equipment, AC & DC distribution boards, DC batteries & associated battery chargers, Fire Protection panels, Telecommunication panels & other panels as per requirements. Air conditioning shall be provided in the building as functional requirements. Main cable trenches from the control room shall have adequate space provision for laying of cables from control room for all the future bays also.

At existing substations, the adequacy of size of control room shall be ascertained and the same shall be augmented as per requirement.

**B.3.6 Control Concept**

All the EHV circuit breakers in substation/switching stations shall be controlled and synchronized from the switchyard control room/remote control center..All the isolators shall have control from remote/local whereas the earth switches shall have local control only.

**B.3.7 Visual monitoring system (VMS) for watch and ward of substation premises:**

Visual monitoring system for effective watch and ward of substation premises shall cover all the transformers and reactors, all other major AIS Equipment (such as CB, isolators, CT, CVT, SA etc. as applicable), GIS bays, panel room, all the gates of switchyard and all entry and exit points of control room building and accordingly the location of cameras shall be decided. The camera shall be high definition color CCD camera with night vision feature. The VMS data partly/completely shall be recorded (minimum for 15 days) at least @25 fps (or better) and stored on network video recorder. The system shall use video signals from various cameras installed at different locations, process them for viewing on workstations/monitors in the control room and simultaneously record all the cameras.

Mouse/keyboard controllers shall be used for pan, tilt, zoom and other functions of the desired camera. The Visual Monitoring System shall have provision of WAN connectivity for remote monitoring.

All camera recordings shall have Camera ID & location/area of recording as well as date/time stamp. The equipment should generally conform to Electromagnetic compatibility requirement for outdoor equipment in EHV substation.

At existing substations, the visual monitoring system if available shall be augmented as per existing or better specification as required.

**B.4.0 General Facilities**

- a) Line Gantry/Towers are envisaged for bays under present scope only. However, for adjacent future line bay, tower shall be designed for extension (considering Quad conductors for 765kV & 400kV future lines and Twin conductor for 220 kV future lines) wherever applicable.
- b) Bay extension works at existing substation shall be executed by TSP in accordance with the requirement/provisions mentioned above. However, interface points shall be considered keeping in view the existing design/arrangement at the substation.
- c) TSP has to arrange for construction power and water on its own.
- d) All outdoor steel structures including anchor/foundation bolts shall be fully galvanized.

The weight of the zinc coating shall be at least 610 g/m<sup>2</sup>. however, for coastal/creek regions it shall be at least 900 g/m<sup>2</sup>.

- e) In 765kV & 400kV switchyard, if spare bay of half diameter is identified as future, all the equipment for Tie & Future bay shall be designed considering the current rating of line bay i.e. 3150A.
- f) Boundary wall shall be brick masonry wall with RCC frame or Stone masonry wall or Precast RCC wall under present scope along the property line of complete substation area including future switchyard area to prevent encroachment and unauthorized access. Minimum height of the boundary wall shall be of 1.8 m from finished ground level (FGL)
- g) All electrical equipment shall be installed above Highest Flood Level and where such equipment is not possible to be installed above Highest Flood Level, it shall be ensured that there is no seepage or leakage or logging of water.

### **SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION**

The communication requirement shall be in accordance to CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020, CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 and CEA (Cyber Security in Power Sector) Guidelines, 2021, all above documents as amended from time to time.

The complete ISTS communication system commissioned by TSP under the RFP shall be the asset of ISTS and shall be available for usage of ISTS requirements as suggested by CTU from time to time.

The protections for transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele- protection in addition to one channel for speech plus data for each direction.

In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall provide the following:

#### **C.1.0 Establishment of 765/400/220kV Ishanagar (New) along with 1x330 MVar, 765 kV & 1x125 MVar, 420 kV bus reactor.**

- (I) TSP shall supply, install & commission 1 no. FODP (96 F) & 1 no. FODP (72 F or higher) along with panels and Approach Cables (24F) with all associated hardware fittings from gantry towers to Control Room for all the incoming lines envisaged under the present scope.
- (II) TSP shall supply, install & commission One or more STM-16 (FOTE) equipment alongwith panel/s supporting minimum Seven (7) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Communication Equipment shall be provided with necessary interfaces to meet the voice and data communication requirement among Ishanagar (New) S/S, Jabalpur, Orai S/S and upcoming MPPTCL stations. The suitable DC Power Supply and backup to be provided for communication equipment.
- (III) FOTE & FODP equipment with panel shall be installed in the Control Room of Ishanagar (New) S/S. FOTE & FODP Equipment can be accommodated in the same panel to optimize space at Control Room.

- (IV) The new communication equipment and its NMS under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.
- (V) TSP shall supply, install & commission Firewall in redundant mode (1+1) in line with the specification attached at Appendix E.2.
- (VI) The maintenance of all the communication equipment including FOTE, FODP, approach cable, DCPS alongwith Battery Bank shall be the responsibility of TSP.

#### **C.2.0 LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)**

On LILO of one ckt of Jabalpur – Orai 765 kV D/c line at Ishanagar (New) S/S, TSP to install OPGW and earthwire as per Tower Configurations:

- (i) For Multi Circuit Tower Configuration: Two (2) no. OPGW cable containing 24 Fibres (24F) each on both the Earthwire peaks to be supplied and installed by TSP.
- (ii) For Double Circuit Tower configuration: Two (2) no. OPGW cable containing 24 Fibres (24F) each on both the Earthwire peaks to be supplied and installed by TSP.

The TSP shall install OPGW cables from gantry of Ishanagar (New) S/S up to the LILO tower with all associated hardware including Vibration Dampers, LILO tower, mid-way & gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at Ishanagar (New) S/S. TSP to also provide suitable optical interfaces/equipment at Orai S/S and Jabalpur S/S to meet link budget requirement for connectivity with Ishanagar (New) S/S. The transmission line length of LILO portion is 5 kms (approx.), if after survey repeater/repeaters are required to meet the link budget requirement of Orai–Ishanagar (New) S/S & Jabalpur – Ishanagar (New) S/S link, the same shall be provided by TSP.

TSP shall finalize the location of repeater station depending upon the actual site conditions. Further, TSP shall comply to the requirements mentioned as per **Appendix-E.1**.

Maintenance of OPGW Cable, **OPGW Hardware** & repeater equipment & items associated with repeater shelter shall be responsibility of TSP.

**Note:** Existing Station owner/s to provide necessary support to integrate different - equipment



& applications of new extended bays with the existing substation e.g. Communication (through FOTE), Voice etc. for smooth operation and monitoring of new added grid elements.

### C.3.0 PLCC & PABX:

Power line carrier communication (PLCC) equipment complete for speech, tele protection commands and data channels shall be provided on each transmission line. The PLCC equipment shall in brief include the following:

Coupling device, line traps, carrier terminals, protection couplers, HF cables, PABX (if applicable) and maintenance and testing instruments.

At new substation, a telephone exchange (PABX) of 24 lines shall be provided at as means of effective communication among various buildings of the substation, remote end substations and with control centres (RLDC/SLDC) etc.

Coupling devices shall be suitable for phase to phase coupling for 400kV Transmission lines. The pass band of coupling devices shall have sufficient margin for adding communication channel in future if required. Necessary protection devices for safety of personnel and low voltage part against power frequency voltages and transient over voltage shall also be provided.

The line traps shall be broad band tuned suitable for blocking the complete range of carrier frequencies. Line Trap shall have necessary protective devices such as lightning arresters for the protection of tuning device. Decoupling network consisting of line traps and coupling capacitors may also be required at certain substation in case of extreme frequency congestion.

The carrier terminals shall be of single side-band (SSB) amplitude modulation (AM) type and shall have 4 kHz band width. PLCC Carrier terminals and Protection couplers shall be considered for both ends of the line.

PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, CVT & Wave trap for all 765kV, 400kV & 220kV line bays under present scope shall be provided by TSP.

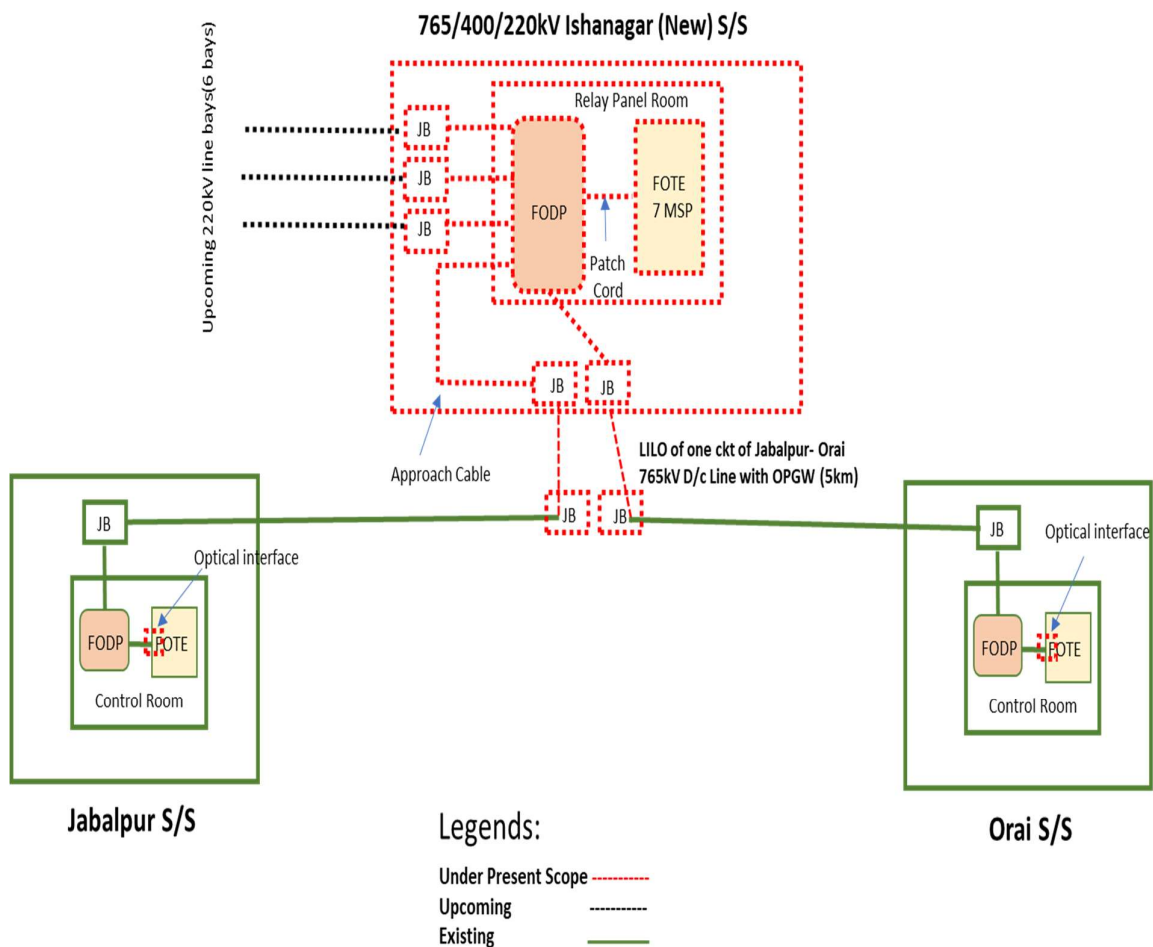
TSP shall provide/ undertake necessary addition/ modification/ shifting/ re-commissioning etc. of PLCC equipment due to LILO of transmission lines (wherever applicable) as mentioned below:

## Transmission Service Agreement

SI.No	Line name	PLCC configuration
1	LILO of one circuit of Jabalpur-Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	1 set Analog PLCC + 1 set Digital Protection Coupler at each end after LILO. Existing PLCC panels can also be utilized.

1. All other associated equipment like cabling, coupling device and HF cable shall also be provided by the TSP.
2. 2 sets of 48V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10 hours battery backup and extended backup, if required.

## Proposed Communication for WRES-XXXIII Part C



## Appendix-E.1

**Repeater Requirements**

- If the repeater location is finalized in the Control Room of a nearby substation, TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the repeater equipment in substation control room. TSP shall co-ordinate for Space & DC power supply sharing for repeater equipment.

TSP shall provide FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link.

OR

- If the repeater location is finalized in the nearby substation premises, the TSP shall identify the Space for repeater shelter in consultation with station owner. Further TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the substation where the repeater shelter is to be housed.

TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems.

OR

- If the repeater location is finalized on land near the transmission tower. TSP shall make the provisions for Land at nearby tower for repeater shelter. Further TSP shall provide 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings to establish connectivity up to the location of repeater shelter.

TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems

Maintenance of OPGW Cable and **OPGW Hardware**, repeater equipment & items associated with repeater shelter shall be responsibility of TSP.

**Appendix-E.2****Next Generation Firewall (NGFW)**

TSP shall provide 2 NGFW one in Main & another in Standby mode having electrical ethernet interfaces/ports and placed between FOTE & SAS gateway/s at the substation. All ethernet based applications shall be terminated in the firewall ports directly (e.g. PMU, AMR, VOIP, SAS/SCADA etc.). Each port of firewall shall work as a separate zone. Firewall shall be hardware based with features of Block/Allow/drop and IPSec VPN (network encryption).

The number of ports/interfaces in each firewall (i.e. Main & Standby) shall be minimum 16 nos. TSP shall provide either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps.

The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/configure through Centralized Management Console (CMC) remotely in future.

Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance.

The specifications for the firewalls are given at **Appendix-E.3** and schematic diagram showing firewall placement given at **Figure E.2**.

**Appendix E.3****Specifications of Next Generation Firewall (NGFW)**

1. NGFW shall have following features including but not limited to:  
Encryption through IPsec VPN (Virtual Private Network), Deep Packet Inspection (DPI), Denial of service (DoS) & Distributed Denial of Service (DDoS) prevention, Port Block/Allow, rules/ policies for block/allow, IP (Internet Protocol) & Media Access Control (MAC) spoofing protection, threat detection, Intrusion Prevention System (IPS), Anti-Virus, Anti-Spyware, Man In The Middle (MITM) attack prevention.
2. The proposed firewall shall be able to handle (alert, block or allow) unknown /unidentified applications e.g. unknown TCP & UDP packets. It shall have the provision to define application control list based on application group and/or list.
3. Firewall shall have feature and also have capability to update the definition/ Signatures of Anti-Virus online as well as offline. Firewall shall also be compatible to update the definitions/signatures through CMC. There shall be a defined process for security patching and firmware up-gradation. There shall be a feature to field validate firmware checksum. The same shall also be validated before using the OEM provided file/binary in the process of firmware up-gradation and security patching.
4. Firewall shall have Management Console port to configure remotely.
5. Firewall shall be EMI/EMC compliant in Substation environment as per IEC 61850-3.
6. Firewall shall be rack mounted in existing standard equipment cabinets.
7. Firewall shall have support of SCADA applications (IEC-60870-5-104), IEC, PMU (IEEE C37.118), Sub-Station Automation System (IEC 61850), Ethernet and other substation environment protocols.
8. Client based Encryption/ VPN must support different Operating System platforms e.g. Windows, Linux & Mac.
9. The solution must have content and comprehensive file detection policies, blocking the files as function of their types, protocols and directions.
10. Firewall shall have logging facility as per standard logs/events format. Firewall shall have features to export the generated/stored logs/events in csv (Comma Separated Value) and also any other standard formats for offline usage, analysis and compliance. Firewall shall have suitable memory architecture and solution to store and be enable to export all logs/events for a period of last 90 days at any given time.

11. Firewall shall have features and be compatible with local as well as central authentication system (RADIUS, LDAP, or TACACS+) for user account and access right management. It shall also have Role Based User management feature.
12. Firewall shall have the capability to configure sufficient number of VLANs.
13. Firewall shall have the capability to support sufficient number of sessions.
14. Firewall shall have provision to configure multiple IP Sec VPNs, at least 100 nos., (one-to-many or many-to-one). Shall support redundant operation with a similar router after creation of all the IP Sec VPN. IPSec VPN shall support encryption protocols as AES128, AES256 and hashing algorithms as MD5 and SHA1. IPSec VPN throughput shall support at least 300 Mbps
15. Firewall shall be capable of SNMP v3 for monitoring from Network Management system. It shall also have SNMPv3 encrypted authentication and access security
16. Firewall shall support in Active/Passive or Active-Active mode with High Availability features like load balancing, failover for firewall and IPsec VPN without losing the session connectivity.
17. Firewall should have integrated traffic shaping (bandwidth, allocation, prioritisation, etc.) functionality
18. Shall support simultaneous operation with both IPv4 and IPv6 traffic
19. Firewall shall be compatible with SNTP/NTP or any other standards for clock synchronization
20. Firewall shall have the features of port as well as MAC based security
21. Firewall shall support exporting of logs to a centralized log management system (e.g. syslog) for security event and information management.
22. Firewall time shall be kept synchronised to official Indian Timekeeping agency, time.nplindia.org.
23. Firewall product shall be provided with all applicable updates at least until 36 months since the applicable date of product shipping to the concerned utility.

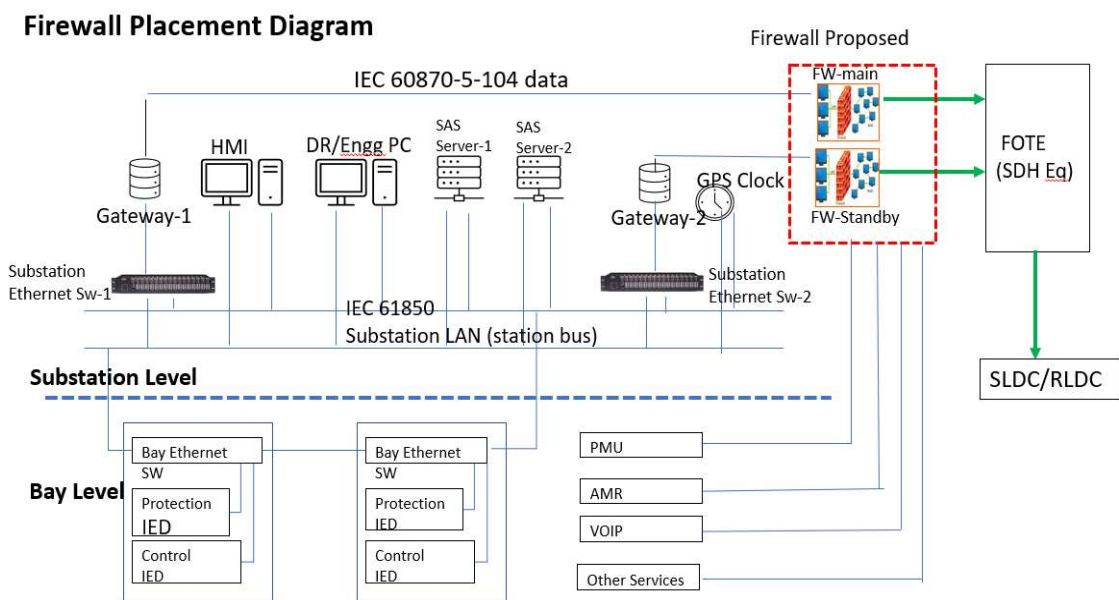


Figure E.2



**Frequently Asked Queries:****1.0 Transmission Line:**

- 1.1 Please clarify that whether shutdowns for crossing of existing transmission lines of POWERGRID/STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP on chargeable basis or free of cost.

Reply: Shutdowns for crossing of existing transmission lines of POWERGRID/ STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP by the concerned owner of the lines as per their own terms & conditions. As far as shutdown of ISTS lines are concerned the same can be availed by approaching respective Regional Power Committee.

- 1.2 We understand that the suggested swing angle criteria are applicable for Suspension Insulator in Suspension Tower. Further, you are requested to provide similar swing angle and clearance criteria for Pilot Insulator with Jumper & Jumper.

Reply: It is clarified that the swing angle criteria (as mentioned in RFP) for transmission lines is applicable for Suspension Insulator in Suspension Tower. Further, as per Clause 3.0 of Specific Technical Requirements for transmission lines, Transmission service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.

- 1.3 We request you to kindly allow that use of diamond configuration at Power line crossings and the existing owner of the lines may be directed to allow the same for the successful bidders.

Reply: Power line crossing including Diamond configuration is responsibility of the TSP. TSP shall formally submit the profile of the crossing section to the owner of the existing line suggesting proposed crossing alternatives. The crossing will have to be carried out as per approval of owner of the existing line.

- 1.4 It is requested you to kindly provide present status of Forest Clearances if any transmission line corridor area falling in wildlife forest / reserve forest/ mangroves.

Reply: Based on the preliminary route survey, the process of initiation of forest clearance for the forest stretches, if any, enroute the proposed line alignment will be initiated by way of writing letters to the concerned authority (ies).

However, it may be noted that it will be the responsibility of TSP for obtaining forest clearance for the forest stretches as provided in the survey report and also for any forest area encountered during detailed survey.

## 2.0 Substation

- 2.1 We understand that space for storage of O&M spare shall be provided by existing owner within the station boundary without any cost. Kindly confirm.

**Reply:** Space for storage of O&M spares shall be arranged by TSP on its own.

- 2.2 We presume that the O&M for the end Termination bays will be in the scope of the TSP and TSP shall not be liable for any payment towards O&M to the existing owner of the substation. Kindly confirm.

**Reply:** Operation and maintenance of the bays is solely responsibility of the TSP.

- 2.3 With reference to subject scheme of existing sub-station, we assumed following scope of work:

- (a) We assumed internal road is available and need not to consider in the present scope of work.
- (b) Drainage is available and need not to consider in the present scope of work.
- (c) Cable trench extension in adjacent to Main cable trench only under present scope of work.
- (d) Levelled area being provided by developer for bay extension.

**Reply:** Regarding requirement of internal road, drainage, cable trench, leveling of the bay extension area, bidder is advised to visit site and acquaint themselves with the provisions/facilities available at substation.

- 2.4 Kindly provide the soil investigation report of soil parameters of existing substation.

**Reply:** Bidder is advised to visit the substation site and ascertain the requisite parameters.

- 2.5 Kindly confirm, energy accounting of aux. power consumption. Whether it will be on chargeable basis or part of transmission loss.

**Reply:** It will be on chargeable basis.

- 2.6 We understand that VMS requirement is for unmanned stations only. For Manned stations VMS is not compulsory.

**Reply:** VMS shall be provided in line with requirements of RfP document.

- 2.7 It is understood that Construction water and power shall be provided free of cost

to TSP by respective substation owner for construction of new bays.

Reply: Arrangement of construction power & water is in the scope of TSP.

2.8 It is understood that existing fire hydrant system shall be extended by the TSP for bay extension.

Reply: Existing fire hydrant system shall be extended from existing system (if required)

2.9 Please clarify that Status of land acquisition for Substations. Whether the lands have been acquired by BPC and will be transferred to TSP.

Reply: The acquisition of land for substation is in the scope of TSP.

2.10 We understood that no any dedicated metering CT & CVT required for Line/feeders. Further, we understood that requisite Energy meters for various 765kV, 400kV & 220kV Feeders shall be provided & installed by CTU free of cost to TSP.

Reply: Dedicated metering CT and CVT are not required for line/feeders. Metering core of existing CT/CVT can be used provided accuracy class is matching with metering requirement. Requisite Special Energy Meters shall be provided and installed by CTU at the cost of TSP in C&P panel subject to space availability, else, in separate metering panel (to be provided by TSP at its cost).

2.11 It is understood that TSP to follow the RFP for Technical Requirement. Only interface drawings like CRP & SCADA shall be coordinated with existing S/S owner.

Reply: All necessary coordination shall be done with existing s/s owner w.r.t interface along with augmentation required as per RfP.

2.12 We understand that there are only two communication channels, Channel-1 for protection-1+ Speech via. PLCC, Channel-2 for Protection-2 + data via. FOTE. Hence, we do not envisage any separate channel for speech + data as the same can be achieved with FOTE system. Therefore, we understand that TSP is allowed to implement best possible solutions accordingly. Kindly confirm

Reply: PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.

2.13 We understand that one set of analog circuit protection coupler shall be for PLCC and another set for Digital protection coupler for FOTE. Kindly confirm.

Reply: PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.

### 3.0 Communication

3.1 What are the usages of OPGW, FOTE, PMU etc. under communication requirement of RFP?

Reply: User shall be responsible for providing compatible equipment along with appropriate interface for uninterrupted communication with the concerned control center and shall be responsible for successful integration with the communication system provided by CTU.

Communication systems e.g. OPGW, FOTE, PMU etc. are required for grid operation through RLDC/SLDC, speech communication, tele-protection and tele-metering.

3.2 Is space for installation of communication panels are provided to TSP in existing Substations incase new bays are in the scope of TSP?

Reply: The space replated issues are deliberated in the RFP itself. TSP to carry out survey of the existing substation for physical space requirement. In case space is not available in the existing substation then TSP shall accommodate

the same in the respective bay SPR (Switchyard Panel Room)/Bay Kiosk/ Relay panel room in case of GIS s/s. Further, TSP to connect and integrate the proposed FOTE with the existing FOTE in the control room.

In Case 132kV Substation TSP shall accommodate the said panels either by extension of existing control room or other arrangements.

3.3 How is the OPGW laying done in case of LILO lines?

Reply: In case LILO lines are on same towers (e.g. both Line in and Line Out portion are on same towers, generally done LILO of S/C lines). Then 2x24FOPGW shall be required to install by TSP on both earthwire peak on 400kV & 765kV lines where two E/W peaks are available. On 220 & 132kV lines where only one E/W peak is available TSP to install one no. 48F OPGW.

Incase LILO lines are on different towers (e.g. both Line In and Line Out portion are on different towers, generally done LILO of D/C lines). Then 1x24F OPGW shall be required to install by TSP on one earthwire peak, on both Line In and Line Out portions of 400kV & 765kV lines. On 220 & 132kV lines where only one E/W peak is available TSP to install one no. 24F OPGW in place of conventional earthwire.

3.4 How is the OPGW laying done in case Multi circuit Towers?

Reply: In case two different lines are using common multi circuit portion for some distance (originating from different stations, may be terminating on same or on different stations). Two no. 24F OPGW to be installed on both E/W peaks for common M/C portion of 765kV & 400kV lines.

In case 220/132kV lines using multi circuit portion where single E/W peak is available one no. 48F may be installed for common multi circuit portion.

**Schedule: 2****Scheduled COD**

[Note: As referred to in the definition of “Element”, “Scheduled COD”, and in Articles 3.1.3 (c), 4 (b) and 4.3 (a) of this Agreement]

S.No.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVar, 765 kV & 1x125 MVar, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

**Note :**

The payment of Transmission Charges for any Element, irrespective of its successful commissioning on or before its Scheduled COD, shall only be considered after successful commissioning of the Element(s), which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project is: 24 months from the date of SPV transfer.

[Note: List of Element(s) along with the critical Element(s) to be provided by CEA]

**Schedule: 3****Safety Rules and Procedures**

[Note: As referred to in Articles 5.6 of this Agreement]

**1: Site Regulations and Safety:**

The TSP shall establish Site regulations within sixty (60) days from fulfilment of conditions subsequent, as per Prudent Utility Practices setting out the rules to be observed till expiry of the Agreement at the Site and shall comply therewith.

Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Project, gate control, sanitation, medical care, and fire prevention, public health, environment protection, security of public life, etc.

Copies of such Site regulations shall be provided to the Nodal Agency and the CEA for the purpose of monitoring of the Project.

**2: Emergency Work:**

In cases of any emergency, the TSP shall carry out all necessary remedial work as may be necessary.

If the work done or caused to be done by any entity, other than the TSP, the TSP shall, reimburse the actual costs incurred, to the other Party carrying out such remedial works.

**3: Site Clearance:**

In the course of execution of the Agreement, the TSP shall keep the Site reasonably free from all unnecessary obstruction, storage, remove any surplus materials, clear away any wreckage, rubbish and temporary works from the Site, and remove any equipment no longer required for execution of the Agreement. After completion of all Elements of the Project, the TSP shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site clean and safe.

**4: Watching and Lighting:**

The TSP shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper construction, operation, maintenance / repair of any of the Elements of the Project, or for the safety of the owners and occupiers of adjacent property and for the safety of the public, during such maintenance / repair.

**Schedule: 4****Computation of Transmission Charges****1.1 General**

The Monthly Transmission Charges to be paid to the TSP for providing Transmission Service for any Contract Year during the term of the Agreement shall be computed in accordance with this Schedule and paid as per Sharing Regulations.

Illustration regarding payment of Transmission Charges under various scenarios (considering definitions of Contract Year, Expiry Date & Monthly Transmission Charges above) is as below: -

**Illustration-1: In case the Project Elements achieve COD as per Schedule**

Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	28	1-Feb-2018	1-Feb-2018	25%
Element 2	38	1-Dec-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	$140 \times 25\% \times ((28+31)/365)$	5.65		--	0.00
1-Apr-18 to 30-Nov-18	$140 \times 25\% \times (244/365)$	23.39		--	0.00
1-Dec-18 to 31-Mar-19	$140 \times 100\% \times (121/365)$				46.41
2	$140 \times 100\% \times 1$				140
3	$140 \times 100\% \times 1$				140
4	$140 \times 100\% \times 1$				140
5	$140 \times 100\% \times 1$				140
.....					
.....					
36 (1-Apr to 30-Nov)	$140 \times 100\% \times (244/365)$				93.59

**Illustration-2: In case of extension of Scheduled COD as per Article 4.4.1 & 4.4.2 of this Agreement**



## Transmission Service Agreement

Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Jul-2018	25%
Element 2	28	1-Oct-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Jun-18	--	0.00		--	0.00
1-Jul-18 to 30-Nov-18	140 X 25% X (153/365)	14.67		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

**Illustration-3: In case of delay in achieving COD of Project & all individual Elements (COD of the Project achieved in Contract Year 1)**

Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Dec-2018	25%

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Element 2	28	1-Oct-2018	1-Dec-2018	75%
-----------	----	------------	------------	-----

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Sept-18	--	0.00		--	0.00
1-Oct-18 to 30-Nov-18	--	0.00	1-Oct-18 to 30-Nov-18	--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

**Illustration-4: In case of delay in achieving COD of Project & all individual Elements (COD of the Project achieved in Contract Year other than Contract Year 1)**

Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-May-2020	25%
Element 2	38	1-Oct-2019	1-May-2020	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Oct-19 to 31-Mar-20	--	0.00	1-Oct-19 to 31-Mar-20	--	0.00
1-Apr-20 to 30-Apr-20	-	0.00	1-Apr-20 to 30-Apr-20	-	0.00
1-May-20 to 31-Mar-21	140 X 100% X (335/365)				128.49
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Apr)	140 X 100% X (30/ 365)				11.51

**Illustration5: In case of delay in achieving COD of Element but Project COD achieved on time**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Jul-2018	25%
Element 2	30	1-Dec-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Jun-18	--	0.00		--	0.00
1-Jul-18 to 30-Nov-18	140 X 25% X (153/365)	14.67		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

**Illustration-6: In case of early commissioning of Project**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-Jul-2019	25%
Element 2	38	1-Oct-2019	1-Jul-2019	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1		Transmission Charges for Element 2	
1-July-19 to 31-Mar-20	140 X 100% X (274/365)		105.09
2	140 X 100% X 1		140
3	140 X 100% X 1		140
4	140 X 100% X 1		140
5	140 X 100% X 1		140
.....			
.....			
36 (1-Apr to 30-Jun)	140 X 100% X (91/365)		34.91

**Illustration-7: In case of early commissioning of an element**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-Apr-2019	25%
Element 2	38	1-Jul-2019	1-Jul-2019	75%

Tariff Payment to be paid as:

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Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Apr-2019 to 30-Jun-19	140 X 25% X (91/365)	8.72	1-Apr-2019 to 30-Jun-19	--	0.00
1-July-19 to 31-Mar-20	140 X 100% X (274/ 365)				105.09
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr-30-Jun)	140 X 100% X (91/365)				34.91

The Transmission Charges shall be payable on monthly basis as computed above.

## 1.2 Computation of Monthly Transmission Charges

The Monthly Transmission Charges for any month m in a Contract Year n shall be calculated as below:

For AC System:

- a. If Actual Transmission System Availability for the month m of contract year n is greater than or equal to 98% and less than or equal to 98.5%;

$$\text{Monthly Transmission Charges MTC(m)} = T_{mn} * 1$$

- a. If Actual Transmission System Availability for the month m of contract year n exceeds 98.5% and less than or equal to 99.75%;

$$\text{Monthly Transmission Charges MTC(m)} = T_{mn} * (AA / 98.5\%)$$

- c. If Actual Transmission System Availability for the month m of contract year n is greater than 99.75%;

$$\text{Monthly Transmission Charges MTC(m)} = T_{mn} * (99.75\% / 98.5\%)$$

- d. If Actual Transmission System Availability for the month m of contract year n is less than 98% and greater than or equal to 95.00%;

$$\text{Monthly Transmission Charges MTC(m)} = T_{mn} * (AA / 98\%)$$

- e. If Actual Transmission System Availability for the month m of contract year falls below 95%;

$$\text{Monthly Transmission Charges MTC(m)} = T_{mn} * (AA / 98\%) - 0.02 * (T_{mn} * (AA / 95\%))$$

For DC System:

## Transmission Service Agreement

- a. If Actual Transmission System Availability for the month m of contract year n is greater than or equal to 95% and less than or equal to 96%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * 1$$

- b. If Actual Transmission System Availability for the month m of contract year n exceeds 96% and less than or equal to 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 96\%)$$

- c. If Actual Transmission System Availability for the month m of contract year n is greater than 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (99.75\% / 96\%)$$

- d. If Actual Transmission System Availability for the month m of contract year n is less than 95% and greater than or equal to 92.00%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 95\%)$$

- e. If Actual Transmission System Availability for the month m of contract year falls below 92%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 95\%) - 0.02 * (T_{mn} * (AA / 92\%))$$

where:

- AA is the actual Availability, as certified by RPC, as per procedure provided in Schedule 6.
- m is the month in Contract Year 'n'
- $T_{mn}$  = Transmission Charges for the month 'm' in Contract Year 'n' = (Transmission Charge/ no. of days in the Year n)\* no. of days in month m

Provided, no Transmission Charges shall be paid during the period for which the RLDC has not allowed the operation of the Element/Project due to the failure of the TSP to operate it as per the provisions of the Grid Code.

### 1.3 RLDC Fee & Charges

The payment of RLDC fee & charges, in accordance with relevant regulations of CERC, shall be the responsibility of the TSP.

**Schedule: 5****Quoted Transmission Charges**

[Quoted Transmission Charges from Annexure - 21 of the RFP of the Selected Bidder to be inserted here]

[To be incorporated from the Bid of the Selected Bidder submitted during the e-reverse auction after its selection]

**Quoted Transmission Charges: Rs. .... Million**

**.Proportionate Transmission Charges payable for each Element of the Project:**

<b>Sonos.</b>	<b>Name of the Transmission Element</b>	<b>Scheduled COD</b>	<b>Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project</b>	<b>Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element</b>
<b>1</b>	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV & 1x125 MVA, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
<b>2</b>	LILO of one circuit of Jabalpur - Orai 765 kV  D/c line at Ishanagar 765 kV S/s (New)			

**Note :**

The payment of Transmission Charges for any Element, irrespective of its successful commissioning on or before its Scheduled COD, shall only be considered after successful commissioning of the Element(s), which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project is: 24 months from the date of SPV transfer.

[Note: List of Element(s) along with the critical Element(s) to be provided by CEA]



## Schedule: 6

### Appendix II of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2019

#### Procedure for Calculation of Transmission System Availability Factor for a Month

1. Transmission system availability factor for nth calendar month (“TAFPn”) shall be calculated by the respective transmission licensee, got verified by the concerned Regional Load Dispatch Centre (RLDC) and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges. In case of AC system, transmission System Availability shall be calculated separately for each Regional Transmission System and inter-regional transmission system. In case of HVDC system, transmission System Availability shall be calculated on consolidate basis for all inter-state HVDC system.
2. Transmission system availability factor for nth calendar month (“TAFPn”) shall be calculated by consider following:
  - i) **AC transmission lines:** Each circuit of AC transmission line shall be considered as one element;
  - ii) **Inter-Connecting Transformers (ICTs):** Each ICT bank (three single phase transformer together) shall form one element;
  - iii) **Static VAR Compensator (SVC):** SVC along with SVC transformer shall form one element;
  - iv) **Bus Reactors or Switchable line reactors:** Each Bus Reactors or Switchable line reactors shall be considered as one element;
  - v) **HVDC Bi-pole links:** Each pole of HVDC link along with associated equipment at both ends shall be considered as one element;
  - vi) **HVDC back-to-back station:** Each block of HVDC back-to-back station shall be considered as one element. If associated AC line (necessary for transfer of inter- regional power through HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered as unavailable;
  - vii) **Static Synchronous Compensation (“STATCOM”):** Each STATCOM shall be considered as separate element.
3. The Availability of AC and HVDC portion of Transmission system shall be calculated by considering each category of transmission elements as under:

**TAFMn (in %) for AC system:**

$$= \frac{o \times AV_o + (p \times AV_p) + (q \times AV_q) + (r \times AV_r) + (u \times AV_u)}{(o + p + q + r + u)} \times 100$$

Where,

- o = Total number of AC lines.
- AV<sub>o</sub> = Availability of o number of AC lines.
- p = Total number of bus reactors/switchable line reactors
- AV<sub>p</sub> = Availability of p number of bus reactors/switchable line reactors
- q = Total number of ICTs.
- AV<sub>q</sub> = Availability of q number of ICTs.
- r = Total number of SVCs.
- AV<sub>r</sub> = Availability of r number of SVCs
- u = Total number of STATCOM.
- AV<sub>u</sub> = Availability of u number of STATCOMs

**TAFMn (in %) for HVDC System:**

$$= \frac{\sum_{x=1}^s Cx_{bp}(\text{act}) \times AV_{x_{bp}} + \sum_{y=1}^t Cy(\text{act})_{btb} \times AV_{y_{btb}}}{\sum_{x=1}^s Cx_{bp} + \sum_{y=1}^t Cy_{btb}} \times 100$$

Where

- Cx<sub>bp</sub>(act) = Total actual operated capacity of x<sup>th</sup> HVDC pole
- Cx<sub>bp</sub> = Total rated capacity of x<sup>th</sup> HVDC pole

$AV_{xpb}$	=	Availability of $x^{th}$ HVDC pole
$Cy_{btb(act)}$	=	Total actual operated capacity of $y^{th}$ HVDC back-to-back station block
$Cy_{btb}$	=	Total rated capacity of $y^{th}$ HVDC back-to-back station block
$AV_{ybtb}$	=	Availability of $y^{th}$ HVDC back-to-back station block
$s$	=	Total no of HVDC poles
$t$	=	Total no of HVDC Back to Back blocks

4. The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category. The formulae for calculation of Availability of each category of the transmission elements are as per **Appendix-III**. The weightage factor for each category of transmission elements shall be considered asunder:
  - (a) For each circuit of AC line – Number of sub-conductors in the line multiplied by ckt-km;
  - (b) For each HVDC pole- The rated MW capacity x ckt-km;
  - (c) For each ICT bank – The rated MVA capacity;
  - (d) For SVC- The rated MVAR capacity (inductive and capacitive);
  - (e) For Bus Reactor/switchable line reactors – The rated MVAR capacity;
  - (f) For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block; and
  - (g) For STATCOM – Total rated MVAR Capacity.
5. The transmission elements under outage due to following reasons shall be deemed to be available:
  - i. Shut down availed for maintenance of another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in existing system approved by the Commission. If the other transmission scheme belongs to the transmission licensee, the Member Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved. In case of dispute regarding deemed availability, the matter may be referred to Chairperson, CEA within 30 days.
  - ii. Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of concerned RLDC.
6. For the following contingencies, outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under period of consideration for the following contingencies:
  - i) Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not

design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by Member Secretary, RPC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;

- ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration;

Provided that in case of any disagreement with the transmission licensee regarding reason for outage, same may be referred to Chairperson, CEA within 30 days. The above need to be resolved within two months:

Provided further that where there is a difficulty or delay beyond sixty days, from the incidence in finalizing the recommendation, the Member Secretary of concerned RPC shall allow the outage hours on provisional basis till the final view.

7. Time frame for certification of transmission system availability: (1) Following schedule shall be followed for certification of availability by Member Secretary of concerned RPC:
- Submission of outage data by Transmission Licensees to RLDC/ constituents
    - By 5th of the following month;
  - Review of the outage data by RLDC / constituents and forward the same to respective RPC – by 20th of the month;
  - Issue of availability certificate by respective RPC – by 3rd of the next month.

## Appendix-III

## FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

For AC transmission system

$$AV_o(\text{Availability of } o \text{ no. of AC lines}) = \frac{\sum_{i=1}^o W_i(T_i - T_{NAi})/T_i}{\sum_{i=1}^o W_i}$$

$$AV_q(\text{Availability of } q \text{ no. of ICTs}) = \frac{\sum_{k=1}^q W_k(T_k - T_{NAk})/T_k}{\sum_{k=1}^q W_k}$$

$$AV_r(\text{Availability of } r \text{ no. of SVCs}) = \frac{\sum_{l=1}^r W_l(T_l - T_{NAL})/T_l}{\sum_{l=1}^r W_l}$$

$$AV_p(\text{Availability of } p \text{ no. of Switched Bus reactors}) = \frac{\sum_{m=1}^p W_m(T_m - T_{NA m})/T_m}{\sum_{m=1}^p W_m}$$

$$AV_u(\text{Availability of } u \text{ no. of STATCOMs}) = \frac{\sum_{n=1}^u W_n(T_n - T_{NAn})/T_n}{\sum_{n=1}^u W_n}$$

$$AV_{x_{bp}}(\text{Availability of an individual HVDC pole}) = \frac{(T_x - T_N)}{T_x}$$

$$AV_{y_{btb}}(\text{Availability of an individual HVDC Back-to-back Blocks}) = \frac{(T_y - T_{NAy})}{T_y}$$

For HVDC transmission system

For the new HVDC commissioned but not completed twelve months;

For first 12 months:  $[(AV_{x_{bp}} \text{ or } AV_{y_{btb}}) \times 95\% / 85\%]$ , subject to ceiling of 95%.

Where,

o	=	Total number of AC lines;
AV <sub>o</sub>	=	Availability of o number of AC lines;
p	=	Total number of bus reactors/switchable line reactors;
AV <sub>p</sub>	=	Availability of p number of bus reactors/switchable line reactors;
q	=	Total number of ICTs;
AV <sub>q</sub>	=	Availability of q number of ICTs;
r	=	Total number of SVCs;
AV <sub>r</sub>	=	Availability of r number of SVCs;.
U	=	Total number of STATCOM;

$AV_u$	=	Availability of $u$ number of STATCOMs;
$W_i$	=	Weightage factor for $i$ th transmission line;
$W_k$	=	Weightage factor for $k$ th ICT;
$W_l$	=	Weightage factors for inductive & capacitive operation of $l$ th SVC;
$W_m$	=	Weightage factor for $m$ th bus reactor;
$W_n$	=	Weightage factor for $n$ th STATCOM.
$T_i, T_k, T_l, T_m, T_n, T_x, T_y$	=	The total hours of $i$ th AC line, $k$ th ICT, $l$ th SVC, $m$ th Switched Bus Reactor & $n$ th STATCOM, $x$ th HVDC pole, $y$ th HVDC back-to-back blocks during the period under consideration (excluding time period for outages not attributable to transmission licensee for reasons given in Para 5 of the procedure)
$T_{NA}^i, T_{NA}^k, T_{NA}^l, T_{NA}^m, T_{NA}^n, T_{NA}^x, T_{NA}^y$	=	The non-availability hours (excluding the time period for outages not attributable to transmission licensee taken as deemed availability as per Para 5 of the procedure) for $i$ th AC line, $k$ th ICT, $l$ th SVC, $m$ th Switched Bus Reactor, $n$ th STATCOM, $x$ th HVDC pole and $y$ th HVDC back-to-back block.

**Schedule: 7**

**Entire Bid (both financial bid and technical bid) of the Selected Bidder to be attached here**

**Schedule: 8****Contract Performance Guarantee**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign entities submitting Bids are required to follow the applicable law in their country.)**

In consideration of the .....[Insert name of the SPV or Selected Bidder on behalf of the TSP, or Lead Member in case of the Consortium, with address] agreeing to undertake the obligations under the Transmission Service Agreement dated .....and the other RFP Project Documents and the Nodal Agency and the .....[Insert the name of the BPC], agreeing to execute the *RFP Project Documents* with the Selected Bidder, regarding setting up the Project, the ..... [Insert name and address of the bank issuing the guarantee and address of the head office] (hereinafter referred to as “Guarantor Bank”) hereby agrees unequivocally, irrevocably and unconditionally to pay to ..... (being the Nodal Agency) at .....[Insert the Place from the address of the Nodal Agency indicated in the TSA] forthwith on demand in writing from the Nodal Agency or any Officer authorized by it in this behalf, any amount up to and not exceeding Rupees ..... Crores (Rs. ....) only [Insert the amount of the bank guarantee] on behalf of M/s. .... [Insert name of the Selected Bidder or SPV].

This guarantee shall be valid and binding on the Guarantor Bank up to and including .....and shall not be terminable by notice or any change in the constitution of the Bank or the term of the Transmission Service Agreement or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rs. .... Crores (Rs. ....) only. Our Guarantee shall remain in force until ..... [Insert the date of validity of the Guarantee as per Article 3.1.2 of this Agreement]. The Nodal Agency, shall be entitled to invoke this Guarantee up to three hundred sixty five (365) days of the last date of the validity of this Guarantee.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from ..... (in its roles as the Nodal Agency),



made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to Nodal Agency.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by ..... [Insert name of the Selected Bidder], ..... [Insert name of the TSP] and / or any other person. The Guarantor Bank shall not require Nodal Agency to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against Nodal Agency in respect of any payment made hereunder.

**THIS BANK GUARANTEE** shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

**THIS BANK GUARANTEE** shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank.

**THIS BANK GUARANTEE** shall be a primary obligation of the Guarantor Bank and accordingly Nodal Agency shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against ..... [Insert the name of SPV] or the Selected Bidder, as the case may be, to make any claim against or any demand on ..... [Insert the name of SPV] or the Selected Bidder, as the case may be, or to give any notice to ..... [Insert the name of SPV] or the Selected Bidder, as the case may be, or to enforce any security held by the Nodal Agency or to exercise, levy or enforce any distress, diligence or other process against ..... [Insert the name of SPV] or the Selected Bidder, as the case may be.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to Nodal Agency and may be assigned, in whole or in part, (whether absolutely or by way of security) by Nodal Agency to any entity to whom the Nodal Agency is entitled to assign its rights and obligations under the Transmission Service Agreement.

The Guarantor Bank hereby agrees and acknowledges that Nodal Agency shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. .... Crores (Rs. ....) only and it shall remain in force until ..... [Date to be inserted on the basis of Article 3.1.2 of the Transmission Service Agreement], with an additional claim period of three hundred sixty five (365) days thereafter. This BANK GUARANTEE shall be

## Transmission Service Agreement

extended from time to time for such period, as may be desired by ..... [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Nodal Agency serves upon us a written claim or demand.

**In witness where of:**

Signature .....

Name: .....

Power of attorney No.: .....

**For:**

..... [Insert Name of the Bank]

**Banker's Seal and Full Address, including mailing address of the Head Office**

**Schedule: 9****Methodology for determining the Relief Under Force Majeure Event & Change in Law during Construction Period**

The relief in the form of revision in tariff due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days and/ or Change in Law during the construction period shall be as under:

$$\Delta T = [(P \times d)] \div [1 - (1 + d)^{-n}]$$

Where,

$\Delta T$  = Change in Transmission Charges for each year

P = Sum of cumulative increase or decrease in the cost of the Project due to Change in Law and interest cost during construction corresponding to the period exceeding one hundred eighty (180) due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days

n = number of years over which the Transmission Charges has to be paid

d = Discount rate as notified by the CERC, applicable on the Bid Deadline

The increase in Transmission Charges as stated above shall be applicable only if the value of increase in Transmission Charges as calculated above exceeds 0.30% (zero point three percent) of the quoted Transmission Charges of the TSP.

Date: 28.12.2023

**CERTIFICATE BY BID EVALUATION COMMITTEE**


**Subject: Selection of Successful Bidder as Transmission Service Provider to establish "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C" through tariff based competitive bidding process.**


It is certified that:

- a. The entire bid process has been carried out in accordance with the "Tariff based Competitive Bidding Guidelines for Transmission Service" and "Guidelines for encouraging competition in development of the Transmission Projects" issued by Ministry of Power, Govt. of India under Section 63 of the Electricity Act, 2003 as amended from time to time.
- b. Consortium of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited, with the lowest annual transmission charges of Rs. 625.88 Million, emerged as the successful Bidder after the conclusion of electronic reverse auction.
- c. The transmission charges of Rs. 625.88 Million discovered after electronic reverse auction is acceptable.

  
(Rajesh Kumar Singh)  
General Manager,  
CCGRO-II, SBI,  
Chairman, BEC

  
(R. K. Mishra)  
Addl. CE, MPPTCL  
Member, BEC

  
(Manjari Chaturvedi)  
Director (PSPA-I), CEA  
Member, BEC

  
(Bhanwar Singh Meena)  
Director, PSETD, CEA  
Member, BEC

  
(Daljit Singh Khatri)  
Chairman, SPV  
Convener – Member  
BEC

I/31595/2023



भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केन्द्रीय विद्युत प्राधिकरण

Central Electricity Authority

विद्युत प्रणाली योजना एवं मूल्यांकन - I प्रभाग

Power System Planning &amp; Appraisal - I Division

सेवा में /To,

- i. Shri. P S Hariharan, Chief General Manager (Tech), RECPDCL, D-Block, REC Headquarter, Plot No. I-4, sector-29, Gurugram (Haryana)- 122001

विषय/Subject: Constitution of the Bid Evaluation Committees (BECs) for the transmission scheme – being implemented through TBCB -reg.

संदर्भ / References:

- (i) Gazette of India (Extraordinary) dated 13.04.2023 and 12.05.2023.
- (ii) M/s RECPDCL letter dated 08.08.2023

महोदय/ Sir,

Ministry of Power vide Gazette notifications under reference (i) has notified the following transmission schemes for implementation through tariff based competitive bidding (TBCB) with RECPDCL as the Bid Process Coordinator (BPC):

- (i) Transmission System for Evacuation of Power from RE Projects in Rajgarh 1000 MW SEZ in Madhya Pradesh – Phase- II
- (ii) Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B
- (iii) Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C

Subsequently, the scope of works (Future provision) of transmission scheme at sl. no (iii) has been modified in 12<sup>th</sup> meeting of NCT held on 24.03.2023.

M/s RECPDCL vide its letter under reference (ii), requested CEA to constitute the Bid Evaluation Committee (BEC) for the above mentioned schemes. Accordingly, CEA vide email dated 11.08.2023 sought nominations from WRPC for constitution of BECs.

Based on the nominations received from WRPC, the Bid Evaluation Committee (BEC) for evaluation of bids of the above mentioned transmission scheme is hereby constituted and is enclosed as **Annexure**. It may be mentioned that the Bid Evaluation Committee for the above mentioned transmission schemes have been constituted in line with Clause 9.8 of the Tariff based Competitive Bidding Guidelines for Transmission Service

31595/2023

issued on 10.08.2021.

संलग्न / Encl. - उपरोक्त / as above

भवदीय / Yours faithfully,

Signed by Ishan Sharan

Date: 14-11-2023 11:23:28

Reason: Approved,  
(इशान शरण / Ishan Sharan)

मुख्य अभियन्ता / Chief Engineer

Annexure

- 1) Bid Evaluation Committee (BEC) for “Transmission System for Evacuation of Power from RE Projects in Rajgarh 1000 MW SEZ in Madhya Pradesh – Phase-II ”:

S.	Name	Designation
----	------	-------------

I/31595/2023

No.		
1.	Shri Rajesh Kumar Singh, General Manager, Commercial Clients Group Regional Office -II, New Delhi	Chairman
2.	Shri R. K Mishra, Addl. CE, MPPTCL	Member
3.	Shri Sudhir Nema, SE, MPPTCL	Member
4.	Director, PSPA-I Division, CEA [ Smt. Manjari Chaturvedi ]	Member
5.	Director, PSETD Division, CEA [ Shri Bhanwar Singh Meena]	Member
6.	Chairman of SPV constituted by RECPDCL	Convener -Member

**2) Bid Evaluation Committee (BEC) for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part B”:**

S. No.	Name	Designation
1.	Shri Rajesh Kumar Singh, General Manager, Commercial Clients Group Regional Office -II, New Delhi	Chairman
2.	Shri R. K Mishra, Addl. CE, MPPTCL	Member
3.	Shri Sudhir Nema, SE, MPPTCL	Member
4.	Director, PSPA-I Division, CEA [ Smt. Manjari Chaturvedi ]	Member
5.	Director, PSETD Division, CEA [ Shri Bhanwar Singh Meena]	Member
6.	Chairman of SPV constituted by RECPDCL	Convener -Member

**3) Bid Evaluation Committee (BEC) for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”:**

S. No.	Name	Designation
1.	Shri Rajesh Kumar Singh, General Manager, Commercial Clients Group Regional Office -II, New Delhi	Chairman
2.	Shri R. K Mishra, Addl. CE, MPPTCL	Member
3.	Shri Sudhir Nema, SE, MPPTCL	Member
4.	Director, PSPA-I Division, CEA [ Smt. Manjari Chaturvedi ]	Member
5.	Director, PSETD Division, CEA [ Shri Bhanwar Singh Meena]	Member
6.	Chairman of SPV constituted by RECPDCL	Convener -Member



Ref No.: RECPDCL/TBCB/WRES Part C/2023-24/ **3441**

Date: 29.12.2023

To,  
**M/s Indigrid 2 Limited (Lead Member) and  
Indigrid 1 Limited (Other Member) – Consortium**  
Unit No 1, 1<sup>st</sup> Floor Windsor Village,  
Kole Kalyan Off CST Road  
Vidya Nagari Marg, Santacruz (East)  
Mumbai, Maharastra-400098.

**Annexure P-10****Kind Attention: Mr. Wasim Alam, Sr. Manager (Bidding & BD)****Subject:** Establishment of "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C" through Tariff Based Competitive Bidding Process (TBCB) – **Letter of Intent.**

Dear Sir,

We refer to:

1. The Request for Proposal (RfP) dated 22.05.2023 comprising RfP, Draft Transmission Service Agreement & Share Purchase Agreement and Survey Report dated 05.09.2023 issued to Consortium of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member), as regards participation in the Global Invitation for Bids for establishment of "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C" through Tariff Based Competitive Bidding process including all correspondence/clarifications/amendments/Errata/corrigendum issued by REC Power Development and Consultancy Limited in regard thereto (hereinafter collectively referred to as the 'Final RFP') till the submission Bid Deadline and as listed below:
  - (i) Amendment-I dated 24.07.2023,
  - (ii) Amendment-II dated 23.08.2023,
  - (iii) Clarifications dated 19.09.2023
  - (iv) Amendment-III dated 25.09.2023,
  - (v) Amendment-IV and Additional Clarifications dated 27.09.2023,
  - (vi) Amendment-V dated 25.10.2023,
  - (vii) Amendment-VI and Additional Clarifications dated 13.11.2023
  - (viii) Additional Clarifications dated 17.11.2023
2. The offer of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium by way of a Technical Bid pursuant to (1) above submitted on 28.11.2023 in response to the Final RFP.
3. The Initial Price Offer of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium as submitted on 28.11.2023 in response to the Final RFP.
4. The final offer of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium, discovered during e-Reverse Auction, conducted on 22.12.2023 in response to the Final RFP.
5. The Technical Bid as in (2) above, the Initial Price Offer as in (3) above and the Final Offer as in (4) above hereinafter collectively referred to as the 'Bid'.



Page 1 of 4



We are pleased to inform you that your proposal and offer received by way of the 'Bid' has been accepted and M/s Indigrd 2 Limited (Lead Member) and Indigrd 1 Limited (Other Member)- Consortium is here by declared as Successful Bidder as per clause 3.6.1 of the Final RFP for the above project and consequently, this Letter of Intent (hereinafter referred to as the 'Lol') is being issued in 2 copies, One original plus One copy.

This Lol is based on the Final RFP and is further contingent upon you satisfying the following conditions:

- (a) Acknowledging its issuance and unconditionally accepting its contents and recording 'Accepted unconditionally' under the signature and stamp of your authorized signatory on each page of the duplicate copy of this letter attached herewith and returning the same to REC Power Development and Consultancy Limited within 7 (Seven) days from the date of issuance of Lol.
- (b) Completion of various activities as stipulated in the RFP including in particular Clause 2.15.2, Clause 2.15.3 and Clause 2.15.4 of the Final RFP within the timelines as prescribed therein.
- (c) Provide the Contract Performance Guarantee of Rs. 22.00 Crore (Rupees Twenty-Two Crore Only) within 10 (Ten) days from issue of this Lol, in favour of the Central "Transmission Utility of India Limited, as per the provisions of Clause 2.12.

It may be noted that REC Power Development and Consultancy Limited has the rights available to them under the Final RFP, including rights under clause 2.15.5 and 3.6.3 thereof, upon your failure to comply with the aforementioned conditions.

As you are aware, the issuance and contents of this Lol are based on the Bid submitted by you as per the Final RFP including the Transmission Charges and other details regarding the Scheduled COD as contained therein. The Quoted Transmission Charges as submitted by you and the Scheduled COD of transmission elements as agreed by you in your Bid, as per Annexure 21 and Format-1 of Annexure-8 respectively of the Final RFP is enclosed herewith as Schedule-A and incorporated herein by way of reference.

Further, please note that relationship of M/s Indigrd 2 Limited (Lead Member) and Indigrd 1 Limited (Other Member)- Consortium with the REC Power Development and Consultancy Limited & Central Transmission Utility of India Limited will be governed solely on the basis of the Final RFP.

You are requested to unconditionally accept the Lol, and record on one copy of the Lol, 'Accepted unconditionally', under the signature of the authorized signatory of your Company and return such copy to us within 7 (Seven) days of issue of Lol.

Yours faithfully



(P S Hariharan)

**Chief General Manager – Tech**

**Enclosures:**

1. Schedule A: Quoted Transmission Charges and the scheduled COD of transmission element submitted in your Bid, as per Annexure 21 and Format-1 of Annexure-8 respectively of the Final RfP.



Copy for kind information to:

1. **The Secretary,**  
Central Electricity Regulatory Commission,  
3 & 4 Floor, Chandra Lok Building,  
Janpath, New Delhi-110001.
2. **The Chairperson,**  
Central Electricity Authority,  
Sewa Bhawan, R K Puram,  
New Delhi-110086.
3. **The Joint Secretary (Transmission),**  
Ministry of Power,  
Shram Shakti Bhawan,  
Rafi Marg, New Delhi- 110 004.
4. **The Director (Transmission),**  
Ministry of Power, Govt, of India,  
Shram Shakti Bhawan, Raft Marg,  
New Delhi 1 10001
5. **The Chief Engineer (PSP & PA -I)**  
Central Electricity Authority,  
Sewa Bhawan, R.K. Puram,  
New Delhi – 110066.
6. **The Chief Operating Officer**  
Central Transmission Utility of India Limited,  
Power Grid Corporation of India Ltd.,  
" Saudamini", Plot No 2 Sector – 29,  
Gurgaon – 122001.

**ANNEXURE 21 - FORMAT FOR FINANCIAL BID****Quoted Annual Transmission Charges: Rs. 625.88 Million****Notes:**

1. The Bidders are required to ensure compliance with the provisions of Clause 2.5.3 of this RFP.
2. Quotes to be in Rupees Millions and shall be up to two (2) decimal points.
3. The contents of this format shall be clearly typed.
4. The Financial Bid shall be digitally signed by the authorized signatory in whose name power of attorney as per Clause 2.5.2 is issued.
5. Ensure only one value for annual Transmission Charges is quoted. The same charge shall be payable every year to TSP for the term of TSA.





**ANNEXURE-8**  
**UNDERTAKING AND DETAILS OF**  
**EQUITY INVESTMENT**

**Annexure 8- Undertaking And Details Of Equity Investment**

**Format 1: Bidders' Undertakings**

Date: 24.11.2023

To,  
**Chief Executive Officer,**  
**REC Power Development and Consultancy Limited**  
 (formerly REC Power Distribution Company Limited)  
 (A wholly owned subsidiary of REC Limited)  
**REC Corporate Head Quarter,**  
**D Block, Plot No. I – 4, Sec – 29 Gurugram – 122 001**

Dear Sir,

**Sub: Bidders' Undertakings in respect of Bid for selection of Bidder as TSP to establish Inter-State transmission system for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”**

We hereby undertake on our own behalf and on behalf of the TSP, that if selected as the Successful Bidder for the Project:

1. The Project shall comply with all the relevant electricity laws, codes, regulations, standards and Prudent Utility Practices, environment laws and relevant technical, operational and safety standards, and we shall execute any agreements that may be required to be executed as per law in this regard.
2. We confirm that the Project shall also comply with the standards and codes as per Clause 1.6.1.2 of the RFP and the TSP shall comply with the provisions contained in the Central Electricity Regulatory Commission Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-state Transmission and related matters Open Access) Regulations, 2009.
3. We give our unconditional acceptance to the **RFP dated 22.05.2023** issued by the BPC and the RFP Project Documents, as amended, and undertake to ensure that the TSP shall execute all the RFP Project Documents, as per the provisions of this RFP.
4. We have submitted the Bid on the terms and conditions contained in the RFP and the RFP Project Documents. Further, the Financial Bid submitted by us is strictly as per the format provided in Annexure 21 of the RFP, without mentioning any deviations, conditions, assumptions or notes in the said Annexure.
5. Our Bid is valid up to the period required under Clause 2.8 of the RFP.





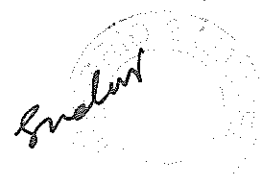
6. Our Bid has been duly signed by authorized signatory and stamped in the manner and to the extent indicated in this RFP and the power of attorney / Board resolution in requisite format as per RFP has been enclosed with this undertaking.
7. We have assumed that if we are selected as the Successful Bidder, the provisions of the Consortium Agreement, to the extent and only in relation to equity lock in and our liability thereof shall get modified to give effect to the provisions of Clause 2.5.8 of this RFP and Article 18.1 of the Transmission Service Agreement. *(Note: This is applicable only in case of a Bidding Consortium)*
8. We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below:

Sl. No.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1.	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV & 1x125 MVA, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2.	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

We agree that the payment of Transmission Charges for any Element irrespective of its successful commissioning on or before its Scheduled COD shall only be considered after the successful commissioning of Element(s) which are pre - required for declaring the commercial operation of such Element as mentioned in the above table.

#### **Scheduled COD for the Project: 24 months from the Effective Date**

9. We confirm that our Financial Bid conforms to all the conditions mentioned in this RFP, and in particular, we confirm that:
  - a. Financial Bid in the prescribed format of Annexure 21 has been submitted duly signed by the authorized signatory.
  - b. Financial Bid is unconditional.



IndiGrid 2 Limited (formerly known as Sterlite Grid 3 Limited)



- c. Only one Financial Bid has been submitted.
10. We have neither made any statement nor provided any information in this Bid, which to the best of our knowledge is materially inaccurate or misleading. Further, all the confirmations, declarations and representations made in our Bid are true and accurate. In case this is found to be incorrect after our acquisition of **Ishanagar Power Transmission Limited** [Insert the name of the SPV], pursuant to our selection as Selected Bidder, we agree that the same would be treated as a TSP's Event of Default under Transmission Service Agreement, and relevant provisions of Transmission Service Agreement shall apply.
11. We confirm that there are no litigations or other disputes against us which materially affect our ability to fulfill our obligations with regard to the Project as per the terms of RFP Project Documents.
12. Power of attorney/ Board resolution as per Clause 2.5.2 is enclosed.

**Signature and name of the authorized signatory of the Company and stamp of Bidding Company or Lead member of Consortium**

  
 .....  
 Name: **Sudhir Nayak**



Designation: **Manager**

Address: **IndiGrid 2 Limited**  
**Unit No. 101, First Floor, Windsor, Village KoleKalyan, off CST Road,**  
**Vidyanagari Marg, Kalina, Santacruz (East), Mumbai – 400 098**

Date: **24.11.2023**

Place: **Delhi**

**Company Rubber Stamp**



**Note:**

1. In case of foreign Bidders, refer to clause 2.5.6 (p)

IndiGrid 2 Limited (formerly known as Sterlite Grid 3 Limited)



## Annexure-8

## Format 2: Details of equity investment in Project

**1.1. a Name of the Bidding Company/ Bidding Consortium:**  
**IndiGrid 2 Limited and IndiGrid 1 Limited**

**1.1.b Name of the Lead Member in the case of a Bidding Consortium:**  
**IndiGrid 2 Limited**

**1.2 Investment details of the Bidding Company/Member of the Bidding Consortium investing in**  
**Ishanagar Power Transmission Limited [Insert the name of the SPV] as per Clause 2.5.8.2.**

S. No.	Name of the Bidding Company/ Member in case of a Bidding Consortium	Name of the Company investing in the equity of the Ishanagar Power Transmission Limited [Insert the name of the SPV]	Relationship with Bidding Company /Member of the Bidding Consortium	% of equity participation in the Ishanagar Power Transmission Limited [Insert the name of the SPV]
(1)	(2)	(3)	(4)	(5)
1.	IndiGrid 2 Limited	IndiGrid 2 Limited	Not Applicable	30%
2.	IndiGrid 1 Limited	IndiGrid 1 Limited	Not Applicable	70%
<b>Total</b>				<b>100%</b>

\* In case the Bidder proposes to invest through its Affiliate(s) / Parent Company / Ultimate Parent Company, the Bidder shall declare shareholding pattern of such Affiliate(s) / Parent Company / Ultimate Parent Company and provide documentary evidence to demonstrate relationship between the Bidder and the Affiliate(s) / Parent Company / Ultimate Parent Company. These documentary evidences could be, but not limited to, demat account statement(s) / Registrar of Companies' (ROC) certification / share registry book, etc duly certified by Company Secretary.

Members of the Consortium or the Bidding Company making investment in the equity of the **Ishanagar Power Transmission Limited** [Insert the name of the SPV] themselves to fill in their own names in the column (3)

**Signature and Name of authorized signatory in whose name power of attorney has been issued**

Signature of authorized signatory

Name: **Sudhir Nayak**

Designation: **Manager**

Date: **24.11.2023**

Company rubber stamp





**From:** Wasim Alam  
**To:** TBCB Projects  
**Cc:** GHANSHYAM PRASAD; secretary.cea@gov.in; d.saibaba@nic.in; Om Kant Shukla; Ishan Sharan; P C Garg {पी.सी. गर्ग}; P S Hariharan; Ankit Kumar; Anil Kumar Yadav; Ritam Biswas; AMIT CHATTERJEE; Puneet Singh Chauhan; Aditya Kislay; Meghana Pandit; Akshay Dhule; Sudhir Nayak  
**Subject:** RE: RECPDCL: Letter of Intent (LoI) for Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C-Regarding  
**Date:** 03 January 2024 13:48:53

---

General

**To,**  
**Chief Executive Officer,**  
**REC Power Development and Consultancy Limited**  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
**REC Corporate Head Quarter,**  
**D Block, Plot No. I – 4, Sec – 29 Gurugram – 122 001**

**Dear Sir,**

**Sub:** Establishment of “**Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C**” through **Tariff Based Competitive Bidding (TBCB)-Letter of Intent**.

**We** on behalf of M/s **IndiGrid 2 Limited** (*Lead Member*) and **IndiGrid 1 Limited** (*Other Member*) (*Bidding Consortium*) (hereinafter called the “Bidder”) **unconditionally accepted the conditions** of **Letter of Intent (LOI)** as issued by your good office *vide* **official letter reference no. RECPDCL/TBCB/WRES Part C/2023-24/3441 dated: 29.12.2023**.

**This is for your kind reference.**

**Note:** Hard copy of LOI duly signed and stamp by authorized signatory of company, will submit to your good office.

**Thanks & Regards,**  
**Wasim Alam**

---

**From:** TBCB Projects <tbc@repcdcl.in>  
**Sent:** Monday, January 1, 2024 11:04 AM  
**To:** Wasim Alam <wasim.alam1@indigrid.com>; Aditya Kislay <aditya.kislay@indigrid.com>; Puneet Singh Chauhan <puneet.chauhan@indigrid.com>  
**Cc:** GHANSHYAM PRASAD <chair@nic.in>; secretary.cea@gov.in; d.saibaba@nic.in; Om Kant Shukla <okshukla@nic.in>; Ishan Sharan <i.sharan@nic.in>; P C Garg {पी.सी. गर्ग} <pcgarg@powergrid.in>; P S Hariharan <pshariharan@repcdcl.in>; Ankit Kumar <ankit.kumar@repcdcl.in>; Anil Kumar Yadav <anilyadav@repcdcl.in>; Ritam Biswas <ritam.biswas@repcdcl.in>; AMIT CHATTERJEE <amitchatterjee141985@gmail.com>  
**Subject:** RECPDCL: Letter of Intent (LoI) for Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C-Regarding

Mail from External Sender - be careful with Links, Attachments and Responses.

Dear Sir,

Please find the attached Lol dated 29.12.2023 for the subject project.

Thanks & Regards,  
Jitendra Singh  
TBCB Division  
RECPDCL



::DISCLAIMER::

-----  
The contents of this e-mail and any attachment(s) with it are confidential and intended for the sole use of named recipients and may contain legally confidential and / or privileged information. It shall not attach any liability on the originator. Any views or opinions presented in this email are solely those of the author and may not necessarily reflect the opinions of RECPDCL or its subsidiaries. If the reader of this message is not the intended recipient, immediately inform the originator by reply e-mail and delete this mail with all content and attachment(s) . Any unauthorized reproduction, dissemination, copying, disclosure, modification, distribution and / or publication of this e-mail and attachment is strictly prohibited and may be unlawful. Before opening any mail and attachments please check them for viruses and defect. Email communications are not secure and capable of interception corruption and delays. Anyone communicating with the originator or RECPDCL or its subsidiaries by email accept the risk of email communication and their consequences.

Ref No.: RECPDCL/TBCB/WRES Part C/2023-24/ **3441**

Date: 29.12.2023

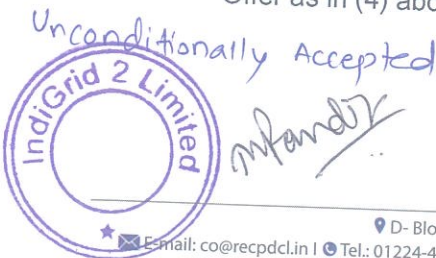
To,  
**M/s Indigrid 2 Limited (Lead Member) and  
Indigrid 1 Limited (Other Member) – Consortium**  
Unit No 1, 1<sup>st</sup> Floor Windsor Village,  
Kole Kalyan Off CST Road  
Vidya Nagari Marg, Santacruz (East)  
Mumbai, Maharastra-400098.

**Kind Attention: Mr. Wasim Alam, Sr. Manager (Bidding & BD)****Subject:** Establishment of "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C" through Tariff Based Competitive Bidding Process (TBCB) – **Letter of Intent.**

Dear Sir,

We refer to:

1. The Request for Proposal (RfP) dated 22.05.2023 comprising RfP, Draft Transmission Service Agreement & Share Purchase Agreement and Survey Report dated 05.09.2023 issued to Consortium of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member), as regards participation in the Global Invitation for Bids for establishment of "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C" through Tariff Based Competitive Bidding process including all correspondence/clarifications/amendments/Errata/corrigendum issued by REC Power Development and Consultancy Limited in regard thereto (hereinafter collectively referred to as the 'Final RFP') till the submission Bid Deadline and as listed below:
  - (i) Amendment-I dated 24.07.2023,
  - (ii) Amendment-II dated 23.08.2023,
  - (iii) Clarifications dated 19.09.2023
  - (iv) Amendment-III dated 25.09.2023,
  - (v) Amendment-IV and Additional Clarifications dated 27.09.2023,
  - (vi) Amendment-V dated 25.10.2023,
  - (vii) Amendment-VI and Additional Clarifications dated 13.11.2023
  - (viii) Additional Clarifications dated 17.11.2023
2. The offer of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium by way of a Technical Bid pursuant to (1) above submitted on 28.11.2023 in response to the Final RFP.
3. The Initial Price Offer of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium as submitted on 28.11.2023 in response to the Final RFP.
4. The final offer of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium, discovered during e-Reverse Auction, conducted on 22.12.2023 in response to the Final RFP.
5. The Technical Bid as in (2) above, the Initial Price Offer as in (3) above and the Final Offer as in (4) above hereinafter collectively referred to as the 'Bid'.



Page 1 of 4



We are pleased to inform you that your proposal and offer received by way of the 'Bid' has been accepted and M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium is here by declared as Successful Bidder as per clause 3.6.1 of the Final RFP for the above project and consequently, this Letter of Intent (hereinafter referred to as the 'Lol') is being issued in 2 copies, One original plus One copy.

This Lol is based on the Final RFP and is further contingent upon you satisfying the following conditions:

- (a) Acknowledging its issuance and unconditionally accepting its contents and recording 'Accepted unconditionally' under the signature and stamp of your authorized signatory on each page of the duplicate copy of this letter attached herewith and returning the same to REC Power Development and Consultancy Limited within 7 (Seven) days from the date of issuance of Lol.
- (b) Completion of various activities as stipulated in the RFP including in particular Clause 2.15.2, Clause 2.15.3 and Clause 2.15.4 of the Final RFP within the timelines as prescribed therein.
- (c) Provide the Contract Performance Guarantee of Rs. 22.00 Crore (Rupees Twenty-Two Crore Only) within 10 (Ten) days from issue of this Lol, in favour of the Central "Transmission Utility of India Limited, as per the provisions of Clause 2.12.

It may be noted that REC Power Development and Consultancy Limited has the rights available to them under the Final RFP, including rights under clause 2.15.5 and 3.6.3 thereof, upon your failure to comply with the aforementioned conditions.

As you are aware, the issuance and contents of this Lol are based on the Bid submitted by you as per the Final RFP including the Transmission Charges and other details regarding the Scheduled COD as contained therein. The Quoted Transmission Charges as submitted by you and the Scheduled COD of transmission elements as agreed by you in your Bid, as per Annexure 21 and Format-1 of Annexure-8 respectively of the Final RFP is enclosed herewith as Schedule-A and incorporated herein by way of reference.

Further, please note that relationship of M/s Indigrid 2 Limited (Lead Member) and Indigrid 1 Limited (Other Member)- Consortium with the REC Power Development and Consultancy Limited & Central Transmission Utility of India Limited will be governed solely on the basis of the Final RFP.

You are requested to unconditionally accept the Lol, and record on one copy of the Lol, 'Accepted unconditionally', under the signature of the authorized signatory of your Company and return such copy to us within 7 (Seven) days of issue of Lol.

Yours faithfully




(P S Hariharan)

**Chief General Manager – Tech**

**Enclosures:**

1. Schedule A: Quoted Transmission Charges and the scheduled COD of transmission element submitted in your Bid, as per Annexure 21 and Format-1 of Annexure-8 respectively of the Final RFP.


Unconditionally Accepted




**Copy for kind information to:**

1. **The Secretary,**  
Central Electricity Regulatory Commission,  
3 & 4 Floor, Chandra Lok Building,  
Janpath, New Delhi-110001.
2. **The Chairperson,**  
Central Electricity Authority,  
Sewa Bhawan, R K Puram,  
New Delhi-110086.
3. **The Joint Secretary (Transmission),**  
Ministry of Power,  
Shram Shakti Bhawan,  
Rafi Marg, New Delhi- 110 004.
4. **The Director (Transmission),**  
Ministry of Power, Govt, of India,  
Shram Shakti Bhawan, Raft Marg,  
New Delhi 1 10001
5. **The Chief Engineer (PSP & PA -I)**  
Central Electricity Authority,  
Sewa Bhawan, R.K. Puram,  
New Delhi – 110066.
6. **The Chief Operating Officer**  
Central Transmission Utility of India Limited,  
Power Grid Corporation of India Ltd.,  
" Saudamini", Plot No 2 Sector – 29,  
Gurgaon – 122001.

A Unconditionally Accepted



ANNEXURE 21 - FORMAT FOR FINANCIAL BID

Quoted Annual Transmission Charges: Rs. 625.88 Million

Notes:

1. The Bidders are required to ensure compliance with the provisions of Clause 2.5.3 of this RFP.
2. Quotes to be in Rupees Millions and shall be up to two (2) decimal points.
3. The contents of this format shall be clearly typed.
4. The Financial Bid shall be digitally signed by the authorized signatory in whose name power of attorney as per Clause 2.5.2 is issued.
5. Ensure only one value for annual Transmission Charges is quoted. The same charge shall be payable every year to TSP for the term of TSA.



Unconditionally Accepted





(Meghana Pandit)

Director





**ANNEXURE-8**  
**UNDERTAKING AND DETAILS OF**  
**EQUITY INVESTMENT**



*M Pandey*



IndiGrid 2 Limited (formerly known as Sterlite Grid 3 Limited)

Indi

**Annexure 8- Undertaking And Details Of Equity Investment**

**Format 1: Bidders' Undertakings**

Date: 24.11.2023

To,  
Chief Executive Officer,  
REC Power Development and Consultancy Limited  
(formerly REC Power Distribution Company Limited)  
(A wholly owned subsidiary of REC Limited)  
REC Corporate Head Quarter,  
D Block, Plot No. 1 – 4, Sec – 29 Gurugram – 122 001

Dear Sir,

**Sub: Bidders' Undertakings in respect of Bid for selection of Bidder as TSP to establish Inter-State transmission system for "Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C"**

We hereby undertake on our own behalf and on behalf of the TSP, that if selected as the Successful Bidder for the Project:

1. The Project shall comply with all the relevant electricity laws, codes, regulations, standards and Prudent Utility Practices, environment laws and relevant technical, operational and safety standards, and we shall execute any agreements that may be required to be executed as per law in this regard.
2. We confirm that the Project shall also comply with the standards and codes as per Clause 1.6.1.2 of the RFP and the TSP shall comply with the provisions contained in the Central Electricity Regulatory Commission Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-state Transmission and related matters Open Access) Regulations, 2009.
3. We give our unconditional acceptance to the **RFP dated 22.05.2023** issued by the BPC and the RFP Project Documents, as amended, and undertake to ensure that the TSP shall execute all the RFP Project Documents, as per the provisions of this RFP.
4. We have submitted the Bid on the terms and conditions contained in the RFP and the RFP Project Documents. Further, the Financial Bid submitted by us is strictly as per the format provided in Annexure 21 of the RFP, without mentioning any deviations, conditions, assumptions or notes in the said Annexure.
5. Our Bid is valid up to the period required under Clause 2.8 of the RFP.



Registered & Corporate Office: Unit No. 01, First Floor, Windsor, Village Kote Kalyan Off CST Road, Vidyanageri Marg, Santacruz (East), Mumbai, Maharashtra-400098, India. CIN: U29130MH2014PLC353042  
Email: complianceofficer@indigrd.co.in www.indigrd.co.in Ph: +91 70284 93885





IndiGrid 2 Limited (formerly known as Sterlite Grid 3 Limited)



6. Our Bid has been duly signed by authorized signatory and stamped in the manner and to the extent indicated in this RFP and the power of attorney / Board resolution in requisite format as per RFP has been enclosed with this undertaking.
7. We have assumed that if we are selected as the Successful Bidder, the provisions of the Consortium Agreement, to the extent and only in relation to equity lock in and our liability thereof shall get modified to give effect to the provisions of Clause 2.5.8 of this RFP and Article 18.1 of the Transmission Service Agreement. *(Note: This is applicable only in case of a Bidding Consortium)*
8. We confirm that our Bid meets the Scheduled COD of each transmission Element and the Project as specified below:

Sl. No.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1.	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV & 1x125 MVA, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2.	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

We agree that the payment of Transmission Charges for any Element irrespective of its successful commissioning on or before its Scheduled COD shall only be considered after the successful commissioning of Element(s) which are pre - required for declaring the commercial operation of such Element as mentioned in the above table.

**Scheduled COD for the Project: 24 months from the Effective Date**

9. We confirm that our Financial Bid conforms to all the conditions mentioned in this RFP, and in particular, we confirm that:
  - a. Financial Bid in the prescribed format of Annexure 21 has been submitted duly signed by the authorized signatory.
  - b. Financial Bid is unconditional.

IndiGrid 2 Limited (formerly known as Sterlite Grid 3 Limited)

Indi

- c. Only one Financial Bid has been submitted.
10. We have neither made any statement nor provided any information in this Bid, which to the best of our knowledge is materially inaccurate or misleading. Further, all the confirmations, declarations and representations made in our Bid are true and accurate. In case this is found to be incorrect after our acquisition of **Ishanagar Power Transmission Limited** [Insert the name of the SPV], pursuant to our selection as Selected Bidder, we agree that the same would be treated as a ISP's Event of Default under Transmission Service Agreement, and relevant provisions of Transmission Service Agreement shall apply.
11. We confirm that there are no litigations or other disputes against us which materially affect our ability to fulfill our obligations with regard to the Project as per the terms of RFP Project Documents.
12. Power of attorney/ Board resolution as per Clause 2.5.2 is enclosed.

**Signature and name of the authorized signatory of the Company and stamp of Bidding Company or Lead member of Consortium**

*Sudhir*  
 Name: **Sudhir Nayak**

Designation: **Manager**

Address: **IndiGrid 2 Limited**  
**Unit No. 101, First Floor, Windsor, Village KoleKalyan, off CST Road,**  
**Vidyanagari Marg, Kalina, Santacruz (East), Mumbai – 400 098**

Date: **24.11.2023**

Place: **Delli**

**Company Rubber Stamp**



**Note:**

1. In case of foreign Bidders, refer to clause 2.5.6 (p)

IndiGrid 2 Limited (formerly known as Sterlite Grid 3 Limited)

Indi

**Annexure-8**  
**Format 2: Details of equity investment in Project**

**1.1. a Name of the Bidding Company/ Bidding Consortium:**  
**IndiGrid 2 Limited and IndiGrid 1 Limited**

**1.1.b Name of the Lead Member in the case of a Bidding Consortium:**  
**IndiGrid 2 Limited**

**1.2 Investment details of the Bidding Company/Member of the Bidding Consortium investing in**  
**Ishanagar Power Transmission Limited [Insert the name of the SPV] as per Clause 2.5.8.2.**

S. No.	Name of the Bidding Company/ Member in case of a Bidding Consortium	Name of the Company investing in the equity of the Ishanagar Power Transmission Limited [Insert the name of the SPV]	Relationship with Bidding Company /Member of the Bidding Consortium	% of equity participation in the Ishanagar Power Transmission Limited [Insert the name of the SPV]
(1)	(2)	(3)	(4)	(5)
1.	IndiGrid 2 Limited	IndiGrid 2 Limited	Not Applicable	30%
2.	IndiGrid 1 Limited	IndiGrid 1 Limited	Not Applicable	70%
<b>Total</b>				<b>100%</b>

\* In case the Bidder proposes to invest through its Affiliate(s) / Parent Company / Ultimate Parent Company, the Bidder shall declare shareholding pattern of such Affiliate(s) / Parent Company / Ultimate Parent Company and provide documentary evidence to demonstrate relationship between the Bidder and the Affiliate(s) / Parent Company / Ultimate Parent Company. These documentary evidences could be, but not limited to, demat account statement(s) / Registrar of Companies' (ROC) certification / share registry book, etc duly certified by Company Secretary.

Members of the Consortium or the Bidding Company making investment in the equity of the **Ishanagar Power Transmission Limited** [Insert the name of the SPV] themselves to fill in their own names in the column (3)

**Signature and Name of authorized signatory in whose name power of attorney has been issued**

Signature of authorized signatory

Name: **Sudhir Nayak**

Designation: **Manager**

Date: **24.11.2023**

Company rubber stamp

## REC Power Development and Consultancy Limited

(Formerly known as REC Power Distribution Company Limited,  
A wholly owned subsidiary of REC Limited, a Maharatna CPSE  
under Ministry of Power, Govt. of India)

589



Ref No: RECPDCL/TBCB/WRES Part C/2023-24/4167

Date: 09.02.2024

### Annexure P-12

**M/s IndiGrid 2 Limited,**  
Unit No 101, First Floor,  
Windsor Village, KoleKalyan Off CST Road,  
Vidyanagari Marg, Santacruz (East) Mumbai,  
Maharashtra – 400098.

**Sub: Establishment of Transmission System for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C” through tariff based competitive bidding process – Extension of Lol- regarding.**

Ref.: RECPDCL/TBCB/WRES Part C/2023-24/3441, Dated 29.12.2023

Dear Sir,

This is in reference to above referred Letter of Intent dated 29<sup>th</sup> December, 2023 issued to M/s Indigrid 2 Limited for Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C.

To complete the activities mentioned under Clause 2.15.2, Clause no. 2.15.3 and Clause no. 2.15.4 of the Final Request for Proposal (RFP) document, validity of above referred Lol is extended till 16<sup>th</sup> February, 2024.

Thanking You,

Yours faithfully,

(P S Hariharan)

**Chief General Manager (Tech)**

**No. 27-44/1/2024-REC DESK**  
**Government of India**  
**Ministry of Power**  
\*\*\*

Shram Shakti Bhawan, Rafi Marg,  
New Delhi, dated the 1<sup>st</sup> February, 2024

To

The Chairman & Managing Director,  
REC Limited, Plot No. I-4, Sector-29,  
Gurugram, Haryana -122001.

**Subject: Approval for Sale and transfer of Ishanagar Power Transmission Limited to the consortium of M/s Indigrid 2 Limited (Lead) and Indigrid 1 Limited (Other) – Regarding.**

Sir,

I am directed to refer to REC's letter SEC No.1/219/2023/3698 dated 16<sup>th</sup> January, 2024 on the subject mentioned above and to convey the approval of competent authority for sale and transfer of 50,000 equity shares of Rs. 10 each of Ishanagar Power Transmission Limited to the Successful Bidder, selected through Tariff Based Competitive Bidding Process i.e. the consortium of M/s Indigrid 2 Limited (Lead) and Indigrid 1 Limited (Other).

Yours faithfully,

  
(Pankaj Kumar Srivastava)  
Section Officer (PFC/REC)  
Telefax: 23711302

Copy for information and necessary action to:

1. **US (Trans), MoP.** with the request that transmission wing should also write to concerned states informing about the project for extending all possible help in assessment of compensation to be paid to landowners and also expediting forest clearance, if involved in the project.
2. **CEO, RECPDCL**



**TRANSMISSION SERVICE AGREEMENT****FOR****DEVELOPMENT AND OPERATION OF INTER-  
STATE TRANSMISSION SYSTEM****FOR TRANSMISSION OF ELECTRICITY  
THROUGH TARIFF BASED COMPETITIVE  
BIDDING FOR****TRANSMISSION SYSTEM FOR  
“WESTERN REGION EXPANSION SCHEME  
XXXIII (WRES-XXXIII): PART C”.****BETWEEN THE  
CENTRAL TRANSMISSION UTILITY OF INDIA  
LIMITED  
(NODAL AGENCY)****AND****Ishanagar Power Transmission Limited****February...<sup>9<sup>th</sup></sup>.....2024**

## Transmission Service Agreement

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Central Transmission Utility of India Limited



2 Ishanagar Power Transmission Limited

February 2024

Bond

# Indian Non Judicial Stamp Haryana Government

Date :23/01/2024

Certificate No. G0W2024A2495

GRN No. 112078836

Stamp Duty Paid : ₹ 101  
(Rs. Only)Penalty : ₹ 0  
(Rs. Zero Only)

## Deponent

Name: Central Transmission utility of India Ltd

H.No/Floor : 2

Sector/Ward : 29

Landmark : Na

City/Village : Gurugram

District : Gurugram

State : Haryana

Phone : 98\*\*\*\*\*10



Purpose : ARTICLE 5 GENERAL AGREEMENT to be submitted at Concerned office

**THIS TRANSMISISON SERVICE AGREEMENT** (hereinafter referred to as "TSA" or "Agreement" or "the Agreement" or "this Agreement") is made on the .....<sup>9<sup>th</sup></sup> [Insert day] of February [Insert month] of Two Thousand and 2024. [Insert Year]

### BETWEEN:

The CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED a company incorporated under the Companies Act, 2013, having its registered office at Plot No.2, Sector 29, Gurgaon - Haryana 122001, India, acting as a Nodal Agency (referred to as the "Nodal Agency"), which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the one part;

### AND

Ishanagar Power Transmission Limited incorporated under the Companies Act, 2013, having its registered office at Core-4, Scope Complex 7, Lodhi Road Delhi, South Delhi, Delhi 110003 (herein after referred to as "Transmission Service Provider" or "TSP" or "ISTS Licensee", which expression shall unless repugnant to the context or meaning thereof include its successors, and permitted assigns) as Party of the other part;



Central Transmission Utility of India Limited

3



Ishanagar Power Transmission Limited

February 2024





## Transmission Service Agreement

**(“Nodal Agency” and “TSP” are individually referred to as “Party” and collectively as the “Parties”)**

**AND WHEREAS:**

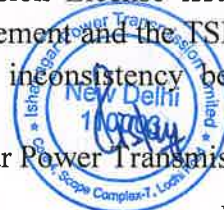
- A) In accordance with the Bidding Guidelines, the Bid Process Coordinator (hereinafter referred to as BPC) had initiated a competitive e-reverse bidding process through issue of RFP for selecting a Successful Bidder to build, own, operate and transfer the Project comprising of the Elements mentioned in Schedule 1 (hereinafter referred to as the Project)
- B) Pursuant to the said e-reverse bidding process, the BPC has identified the Successful Bidder, who will be responsible to set up the Project on build, own, operate and transfer basis to provide Transmission Service in accordance with the terms of this Agreement and the Transmission License.
- C) The Selected Bidder have submitted the Contract Performance Guarantee and acquired one hundred percent (100%) of the equity shareholding of Ishanagar Power Transmission Limited, along with all its related assets and liabilities in terms of the provisions of the Share Purchase Agreement.
- D) The TSP has agreed to make an application for a Transmission License to the Commission for setting up the Project on build, own, operate and transfer basis.
- E) The TSP has further agreed to make an application to the Commission for the adoption of the Transmission Charges under Section 63 of the Electricity Act, 2003, along with a certification from the Bid Evaluation Committee in accordance with the Bidding Guidelines issued by Ministry of Power, Government of India.
- F) The TSP has agreed to execute the agreement(s) required, if any, under Sharing Regulations within fifteen (15) days from the date of grant of Transmission License from the Commission.
- G) The TSP agrees to the terms and conditions laid down under Sharing Regulations, for making available the ISTS and charge the Transmission Charges in accordance with the terms and conditions of Sharing Regulations.
- H) The billing, collection and disbursement of the Transmission Charges by the CTU to the ISTS Licensee shall be governed as per Sharing Regulations.
- I) The terms and conditions stipulated in the Transmission License issued by the Commission to the TSP shall be applicable to this Agreement and the TSP agrees to comply with these terms and conditions. In case of inconsistency between the



Central Transmission Utility of India Limited

4

Ishanagar Power Transmission Limited



February 2024

## Transmission Service Agreement

Transmission License terms & conditions and the conditions of this Agreement, the conditions stipulated in the Transmission License granted by the Commission shall prevail.

**NOW, THEREFORE, IN CONSIDERATION OF THE PREMISES AND MUTUAL AGREEMENTS, COVENANTS AND CONDITIONS SET FORTH HEREIN, IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:**



Central Transmission Utility of India Limited



5 Ishanagar Power Transmission Limited

February 2024

**ARTICLE: 1****1 Definitions and Interpretations****1.1 Definitions:**

- 1.1.1 The words / expressions used in this Agreement, unless as defined below or repugnant to the context, shall have the same meaning as assigned to them by the Electricity Act, 2003 and the rules or regulations framed there under including those issued / framed by the Commission (as defined hereunder), as amended or re-enacted from time to time or the General Clauses Act, failing which it shall bear its ordinary English meaning.

The words/expressions when used in this Agreement shall have the respective meanings as specified below:

**“Acquisition Price”** shall have the same meaning as defined in the Share Purchase Agreement;

**“Act” or “Electricity Act” or “Electricity Act 2003”** shall mean the Electricity Act, 2003 and any amendments made to the same or any succeeding enactment thereof;

**“Affiliate”** shall mean a company that either directly or indirectly

- i. controls or
- ii. is controlled by or
- iii. is under common control with

a Bidding Company (in the case of a single company) or a Member (in the case of a Consortium) and **“control”** means ownership by one entity of at least twenty six percent (26%) of the voting rights of the other entity;

**“Availability”** in relation to the Project or in relation to any Element of the Project, for a given period shall mean the time in hours during that period the Project is capable to transmit electricity at its Rated Voltage and shall be expressed in percentage of total hours in the given period and shall be calculated as per the procedure contained in Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, attached herewith in Schedule 6;

**“Bid”** shall mean technical bid and financial bid submitted by the Bidder, in response to the RFP, in accordance with the terms and conditions of the RFP;

**“Bid Deadline”** shall mean the last date and time for submission of the Bid in response to RFP, as specified in the RFP;

**“Bidding Company”** shall refer to such single company that has made a Response to RFP for the Project;

**“Bidding Consortium / Consortium”** shall refer to a group of companies that has collectively made a Response to RFP for the Project;

**“Bid Documents”** or **“Bidding Documents”** shall mean the RFP, along with all attachments thereto or clarifications thereof;

**“Bidding Guidelines”** shall mean the “Tariff Based Competitive Bidding Guidelines for Transmission Service” and “Guidelines for Encouraging Competition in Development of Transmission Projects” issued by Government of India, Ministry of Power under Section – 63 of the Electricity Act as amended from time to time;

**“Bid Process Coordinator”** or **“BPC”** shall mean a person or its authorized representative as notified by the Government of India, responsible for carrying out the process for selection of Bidder who will acquire Transmission Service Provider;

**“Bill”** shall mean any bill raised by the CTU on the DICs to recover the Transmission Charges pursuant to the Sharing Regulations;

**“Business Day”** shall mean a day other than Sunday or a statutory holiday, on which the banks remain open for business in the State in which the Nodal Agency’s registered office is located and the concerned TSP are located;

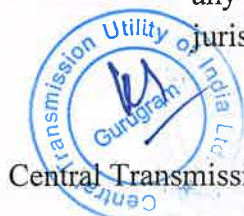
**“CEA”** shall mean the Central Electricity Authority constituted under Section -70 of the Electricity Act;

**“Change in law”** shall have the meaning ascribed thereto in Article 12;

**“Commercial Operation Date”** or **“COD”** shall mean the date as per Article 6.2;

**“Commission”** or **“CERC”** shall mean the Central Electricity Regulatory Commission referred to in sub-section (1) of Section 76 of the Electricity Act, 2003 or its successors and assigns;

**“Competent Court of Law”** shall mean the Supreme Court or any High Court, or any tribunal or any similar judicial or quasi-judicial body in India that has jurisdiction to adjudicate upon issues relating to the Project;



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**“Connection Agreement”** shall mean the agreement between the CTU or STU or any other concerned parties and the TSP, setting out the terms relating to the connection of the Project to the Inter-connection Facilities and use of the Inter State Transmission System as per the provisions of the IEGC, as the case may be;

**“Consultation Period”** shall mean the period of sixty (60) days or such longer period as the Parties may agree, commencing from the date of issue of a TSP’s Preliminary Notice or a Nodal Agency’s Preliminary Termination Notice, as provided in Article 13 of this Agreement, for consultation between the Parties to mitigate the consequence of the relevant event having regard to all the circumstances;

**“Consents, Clearances and Permits”** shall mean all authorizations, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements, or concessions required to be obtained from or provided by any concerned authority for the development, execution and operation of Project including without any limitation for the construction, ownership, operation and maintenance of the Transmission Lines and/or sub-stations;

**“Construction Period”** shall mean the period from (and including) the Effective Date of the Transmission Service Agreement up to (but not including) the COD of the Element of the Project in relation to an Element and up to (but not including) the COD of the Project in relation to the Project;

**“Contractors”** shall mean the engineering, procurement, construction, operation & maintenance contractors, surveyors, advisors, consultants, designers, suppliers to the TSP and each of their respective sub-contractors (and each of their respective successors and permitted assigns) in their respective capacities as such;

**“Contract Performance Guarantee”** shall mean the irrevocable unconditional bank guarantee, submitted and to be submitted by the TSP or by the Selected Bidder on behalf of the TSP to the Nodal Agency from a bank mentioned in Annexure 17 of the RFP, in the form attached here to as Schedule 8, in accordance with Article 3 of this Agreement and which shall include the additional bank guarantee furnished by the TSP under this Agreement;

**“Contract Year”**, for the purpose of payment of Transmission Charges, shall mean the period beginning on the COD, and ending on the immediately succeeding March 31 and thereafter each period of 12 months beginning on April 1 and ending on March 31 provided that the last Contract Year shall end on the last day of the term of the TSA;

**“CTU” or “Central Transmission Utility”** shall have same meaning as defined in the Electricity Act, 2003;



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**“Day”** shall mean a day starting at 0000 hours and ending at 2400 hours;

**“D/C”** shall mean Double Circuit;

**“Designated ISTS Customers”** or **“DICs”** shall have the meaning as ascribed in the Sharing Regulations;

**“Dispute”** shall mean any dispute or difference of any kind between the Parties, in connection with or arising out of this Agreement including any issue on the interpretation and scope of the terms of this Agreement as provided in Article 16;

**“Effective Date”** for the purposes of this Agreement, shall have the same meaning as per Article 2.1 of this Agreement;

**“Electrical Inspector”** shall mean a person appointed as such by the Government under sub-section (1) of Section 162 of the Electricity Act 2003 and also includes Chief Electrical Inspector;

**“Electricity Rules 2005”** shall mean the rules framed pursuant to the Electricity Act 2003 and as amended from time to time;

**“Element”** shall mean each Transmission Line or each circuit of the Transmission Lines (where there are more than one circuit) or each bay of Sub-station or switching station or HVDC terminal or inverter station of the Project, including ICTs, Reactors, SVC, FSC, etc. forming part of the ISTS, which will be owned, operated and maintained by the concerned ISTS Licensee, and which has a separate Scheduled COD as per Schedule 2 of this Agreement and has a separate percentage for recovery of Transmission Charges on achieving COD as per Schedule 5 of this Agreement;

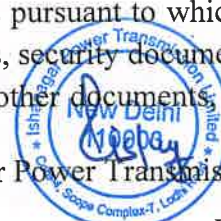
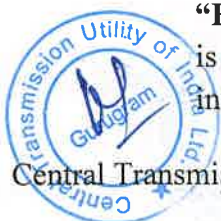
**“Event of Default”** shall mean the events as defined in Article 13 of this Agreement;

**“Expiry Date”** shall be the date which is thirty five (35) years from the COD of the Project;

**“Financial Closure”** shall mean the first Business Day on which funds are made available to the TSP pursuant to the Financing Agreements;

**“Financially Evaluated Entity”** shall mean the company which has been evaluated for the satisfaction of the financial requirement set forth in the RFP;

**“Financing Agreements”** shall mean the agreements pursuant to which the TSP is to finance the Project including the loan agreements, security documents, notes, indentures, security agreements, letters of credit and other documents, as may be



## Transmission Service Agreement

amended, modified, or replaced from time to time, but without in anyway increasing the liabilities of the Designated ISTS Customers / Nodal Agency;

**“Financial Year”** shall mean a period of twelve months at midnight Indian Standard Time (IST) between 1st April & 31st March;

**“Force Majeure”** and **“Force Majeure Event”** shall have the meaning assigned thereto in Article 11;

**“GOI”** shall mean Government of India;

**“Grid Code”** / **“IEGC”** shall mean the Grid Code specified by the Central Commission under Clause (h) of sub-section (1) of Section 79 of the Electricity Act;

**“Independent Engineer”** shall mean an agency/ company, appointed by Nodal Agency in accordance with the Guidelines for Encouraging Competition in Development of Transmission Projects.

**“Indian Governmental Instrumentality”** shall mean Government of India, Government of any State in India or any ministry, department, board, authority, agency, corporation, commission under the direct or indirect control of Government of India or any State Government or both, any political sub-division of any of them including any court or Commission or tribunal or judicial or quasi-judicial body in India but excluding the CTU, TSP and the Designated ISTS Customers;

**“Insurances”** shall mean the insurance cover to be obtained and maintained by the TSP in accordance with Article 9 of this Agreement;

**“Interconnection Facilities”** shall mean the facilities as may be set up for transmission of electricity through the use of the Project, on either one or both side of generating station's / CTU's / STU's / ISTS Licensee's / Designated ISTS Customer's substations (as the case may be) which shall include, without limitation, all other transmission lines, gantries, sub-stations and associated equipments not forming part of the Project;

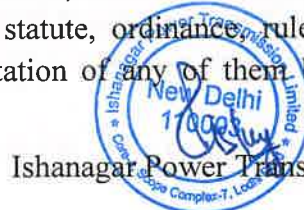
**“ISTS Licensee”** shall be the TSP under this Agreement, consequent to having been awarded a Transmission License by the CERC and shall be referred to as the TSP or the ISTS Licensee, as the context may require in this Agreement;

**“Law”** or **“Laws”** in relation to this Agreement, shall mean all laws including electricity laws in force in India and any statute, ordinance, rule, regulation, notification, order or code, or any interpretation of any of them by an Indian



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Governmental Instrumentality having force of law and shall include all rules, regulations, decisions and orders of the Commission;

**“Lead Member of the Bidding Consortium” or “Lead Member”** shall mean a company who commits at least 26% equity stake in the Project, meets the technical requirement as specified in the RFP and so designated by other Member(s) in Bidding Consortium;

**“Lenders”** means the banks, financial institutions, multilateral funding agencies, non banking financial companies registered with the Reserve Bank of India (RBI), insurance companies registered with the Insurance Regulatory & Development Authority (IRDA), pension funds regulated by the Pension Fund Regulatory & Development Authority (PFRDA), mutual funds registered with Securities & Exchange Board of India (SEBI), etc., including their successors and assigns, who have agreed on or before COD of the Project to provide the TSP with the debt financing described in the capital structure schedule, and any successor banks or financial institutions to whom their interests under the Financing Agreements may be transferred or assigned;

Provided that, such assignment or transfer shall not relieve the TSP of its obligations to the Nodal Agency under this Agreement in any manner and shall also does not lead to an increase in the liability of the Nodal Agency;

**“Lenders Representative”** shall mean the person notified by the Lender(s) in writing as being the representative of the Lender(s) or the Security Trustee and such person may from time to time be replaced by the Lender(s) pursuant to the Financing Agreements by written notice to the TSP;

**“Letter of Intent” or “LOI”** shall have the same meaning as in the RFP;

**“Member in a Bidding Consortium / Member”** shall mean each company in the Bidding Consortium;

**“Month”** shall mean a period of thirty (30) days from (and excluding) the date of the event;

**“Monthly Transmission Charges”** for any Element of the Project, after COD of the Element till COD of the Project, and for the Project after COD of the Project, shall mean the amount of Transmission Charges as specified in Schedule 5 of this Agreement multiplied by no. of days in the relevant month and divided by no. of days in the year;

**“National Load Despatch Centre”** shall mean the centre established as per sub-section (1) of Section 26 of the Electricity Act 2003;

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**“Nodal Agency”** shall mean CTU, which shall execute and implement the Transmission Service Agreement (TSA);

Provided that while taking major decisions, CTU shall consult CEA on technical matters and any other matter it feels necessary.

**“Notification”** shall mean any notification, issued in the Gazette of India;

**“Operating Period”** for any Element of the Project shall mean the period from (and including) the COD of such Element of the Project, up to (and including) the Expiry Date and for the Project, shall mean the period from (and including) the COD of the Project, up to (and including) the Expiry Date;

**“Parent Company”** shall mean an entity that holds at least twenty six percent (26%) of the paid - up equity capital directly or indirectly in the Bidding Company or in the Member in a Bidding Consortium, as the case may be;

**“Preliminary Termination Notice”** shall mean a Nodal Agency’s Preliminary Termination Notice as defined in Article 13 of this Agreement;

**“Project”** shall mean Transmission System for **“Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C”**, as detailed in Schedule 1 of this Agreement;

**“Project Assets”** shall mean all physical and other assets relating to and forming part of the Project including:

- (a) rights over the Site for substations, ROW for transmission lines;
- (b) tangible & intangible assets such as civil works and equipment including foundations, embankments, pavements, electrical systems, communication systems, relief centres, administrative offices, Sub-stations, software, tower and sub-stations designs etc;
- (c) project facilities situated on the Site;
- (d) all rights of the TSP under the project agreements;
- (e) financial assets, such as receivables, security deposits etc;
- (f) insurance proceeds; and
- (g) Applicable Permits and authorisations relating to or in respect of the Transmission System;”



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**“Project Execution Plan”** shall mean the plan referred to in Article 3.1.3(c) hereof;

**“Prudent Utility Practices”** shall mean the practices, methods and standards that are generally accepted internationally from time to time by electric transmission utilities for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation, repair and maintenance of the Project and which practices, methods and standards shall be adjusted as necessary, to take account of:

- (i) operation, repair and maintenance guidelines given by the manufacturers to be incorporated in the Project,
- (ii) the requirements of Law, and
- (iii) the physical conditions at the Site;
- (iv) the safety of operating personnel and human beings;

**“Rated Voltage”** shall mean voltage at which the Transmission System is designed to operate or such lower voltage at which the line is charged, for the time being, in consultation with the Central Transmission Utility;

**“Rebate”** shall have the meaning as ascribed to in Article 10.3 of this Agreement;

**“RFP”** shall mean Request for Proposal dated 22.05.2023 along with all schedules, annexures and RFP Project Documents attached thereto, issued by the BPC for tariff based competitive bidding process for selection of Bidder as TSP to execute the Project, including any modifications, amendments or alterations thereto;

**“RFP Project Documents”** shall mean the following documents to be entered into in respect of the Project, by the Parties to the respective agreements:

- a. Transmission Service Agreement,
- b. Share Purchase Agreement,
- c. Agreement(s) required under Sharing Regulations and
- d. Any other agreement as may be required;

**“RLDC”** shall mean the relevant Regional Load Dispatch Centre as defined in the Electricity Act, 2003, in the region(s) in which the Project is located;

**“RPC”** shall mean the relevant Regional Power Committee established by the Government of India for the specific Region(s) in accordance with the Electricity Act, 2003 for facilitating integrated operation of the Power System in that Region;

**“Scheduled COD”** in relation to an Element(s) shall mean the date(s) as mentioned in Schedule 2 as against such Element(s) and in relation to the Project, shall mean the date as mentioned in Schedule 2 as against such Project, subject to the provisions of Article 4.4 of this Agreement, or such date as may be mutually agreed among the Parties;

**“Scheduled Outage”** shall mean the final outage plan as approved by the RPC as per the provisions of the Grid Code;

**“Selected Bid”** shall mean the technical Bid and the Final Offer of the Selected Bidder submitted during e-reverse bidding, which shall be downloaded and attached in Schedule 7 on or prior to the Effective Date;

**“Share Purchase Agreement”** shall mean the agreement amongst REC Power Development and Consultancy Limited, Ishanagar Power Transmission Limited and the Successful Bidder for the purchase of one hundred (100%) per cent of the shareholding of the Ishanagar Power Transmission Limited for the Acquisition Price, by the Successful Bidder on the terms and conditions as contained therein;

**“Sharing Regulations”** shall mean the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 and as amended from time to time;

**“Site”** in relation to a substation, switching station or HVDC terminal or inverter station, shall mean the land and other places upon which such station / terminal is to be established;

**“SLDC”** shall mean the State Load Despatch Centre established as per sub-section (1) of Section 31 of the Electricity Act 2003;

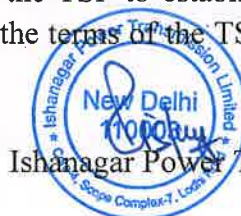
**“STU”** or **“State Transmission Utility”** shall be the Board or the Government company, specified as such by the State Government under sub-section (1) of Section 39 of the Electricity Act 2003;

**“Successful Bidder”** or **“Selected Bidder”** shall mean the Bidder selected pursuant to the RFP and who has to acquire one hundred percent (100%) equity shares of Ishanagar Power Transmission Limited, along with all its related assets and liabilities, which will be responsible as the TSP to establish the Project on build, own, operate and transfer basis as per the terms of the TSA and other RFP Project Documents;



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**“TSP’s Preliminary Notice”** shall mean a notice issued by the TSP in pursuant to the provisions of Article 13.3 of this Agreement;

**“Target Availability”** shall have the meaning as ascribed hereto in Article 8.2 of this Agreement;

**“Technically Evaluated Entity”** shall mean the company which has been evaluated for the satisfaction of the technical requirement set forth in RFP;

**“Termination Notice”** shall mean a Nodal Agency’s Termination Notice given by the Nodal Agency to the TSP pursuant to the provisions of Articles 3.3.2, 3.3.4, 4.4.2, 5.8, 13.2 and 13.3 of this Agreement for the termination of this Agreement;

**“Term of Agreement”** for the purposes of this Agreement shall have the meaning ascribed thereto in Article 2.2 of this Agreement;

**“Transmission Charges”** shall mean the Final Offer of the Selected Bidder during the e-reverse bidding and adopted by the Commission, payable to the TSP as per Sharing Regulations;

**“Transmission License”** shall mean the license granted by the Commission in terms of the relevant regulations for grant of such license issued under the Electricity Act;

**“Transmission Service”** shall mean making the Project available as per the terms and conditions of this Agreement and Sharing Regulations;

**“Unscheduled Outage”** shall mean an interruption resulting in reduction of the Availability of the Element(s) / Project (as the case may be) that is not a result of a Scheduled Outage or a Force Majeure Event.

**“Ultimate Parent Company”** shall mean an entity which owns at least twenty six percent (26%) equity in the Bidding Company or Member of a Consortium, (as the case may be) and in the Technically Evaluated Entity and / or Financially Evaluated Entity (as the case may be) and such Bidding Company or Member of a Consortium, (as the case may be) and the Technically Evaluated Entity and / or Financially Evaluated Entity (as the case may be) shall be under the direct control or indirectly under the common control of such entity;

## 1.2

### Interpretation:

*Save where the contrary is indicated, any reference in this Agreement to:*

**“Agreement”** shall be construed as including a reference to its Schedules, Appendices and Annexures;



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**"Rupee", "Rupees" and "Rs."** shall denote lawful currency of India;

**"crore"** shall mean a reference to ten million (10,000,000) and a **"lakh"** shall mean a reference to one tenth of a million (1,00,000);

**"encumbrance"** shall be construed as a reference to a mortgage, charge, pledge, lien or other encumbrance securing any obligation of any person or any other type of preferential arrangement (including, without limitation, title transfer and retention arrangements) having a similar effect;

**"holding company"** of a company or corporation shall be construed as a reference to any company or corporation of which the other company or corporation is a subsidiary;

**"indebtedness"** shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;

**"person"** shall have the meaning as defined in Section 2 (49) of the Act;

**"subsidiary"** of a company or corporation (the holding company) shall be construed as a reference to any company or corporation:

- (i) which is controlled, directly or indirectly, by the holding company, or
- (ii) more than half of the issued share capital of which is beneficially owned, directly or indirectly, by the holding company, or
- (iii) which is a subsidiary of another subsidiary of the holding company,

for these purposes, a company or corporation shall be treated as being controlled by another if that other company or corporation is able to direct its affairs and/or to control the composition of its board of directors or equivalent body;

**"winding-up", "dissolution", "insolvency", or "reorganization"** in the context of a company or corporation shall have the same meaning as defined in the Companies Act, 1956/ Companies Act, 2013 (as the case may be).

1.2.1 Words importing the singular shall include the plural and vice versa.

1.2.2 This Agreement itself or any other agreement or document shall be construed as a reference to this or to such other agreement or document as it may have been, or may from time to time be, amended, varied, novated, replaced or supplemented.

1.2.3 A Law shall be construed as a reference to such Law including its amendments or re-enactments from time to time.



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- 1.2.4 A time of day shall, save as otherwise provided in any agreement or document be construed as a reference to Indian Standard Time.
- 1.2.5 Different parts of this Agreement are to be taken as mutually explanatory and supplementary to each other and if there is any inconsistency between or among the parts of this Agreement, they shall be interpreted in a harmonious manner so as to give effect to each part.
- 1.2.6 The tables of contents and any headings or sub-headings in this Agreement have been inserted for ease of reference only and shall not affect the interpretation of this Agreement.
- 1.2.7 All interest payable under this Agreement shall accrue from day to day and be calculated on the basis of a year of three hundred and sixty five (365) days.
- 1.2.8 The words “hereof” or “herein”, if and when used in this Agreement shall mean a reference to this Agreement.
- 1.2.9 The contents of Schedule 7 shall be referred to for ascertaining accuracy and correctness of the representations made by the Selected Bidder in Article 17.2.1 hereof.



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**ARTICLE: 2****2 Effectiveness and Term of Agreement****2.1 Effective Date:**

This Agreement shall be effective from later of the dates of the following events:

- a. The Selected Bidder, on behalf of the TSP, has provided the Contract Performance Guarantee, as per terms of Article 3.1 of this Agreement; and
- b. The Selected Bidder has acquired for the Acquisition Price, one hundred percent (100%) of the equity shareholding of REC Power Development and Consultancy Limited in Ishanagar Power Transmission Limited along with all its related assets and liabilities as per the provisions of the Share Purchase Agreement. and
- c. The Agreement is executed and delivered by the Parties;

**2.2 Term and Termination:**

- 2.2.1 Subject to Article 2.2.3 and Article 2.4, this Agreement shall continue to be effective in relation to the Project until the Expiry Date, when it shall automatically terminate.
- 2.2.2 Post the Expiry Date of this Agreement, the TSP shall ensure transfer of Project Assets to CTU or its successors or an agency as decided by the Central Government at zero cost and free from any encumbrance and liability. The transfer shall be completed within 90 days of expiry of this Agreement failing which CTU shall be entitled to take over the Project Assets Suo moto.
- 2.2.3 This Agreement shall terminate before the Expiry Date in accordance with Article 13 or Article 3.3.2 or Article 3.3.4.

**2.3 Conditions prior to the expiry of the Transmission License**

- 2.3.1 In order to continue the Project beyond the expiry of the Transmission License, the TSP shall be obligated to make an application to the Commission at least two (2) years before the date of expiry of the Transmission License, seeking the Commission's approval for the extension of the term of the Transmission License up to the Expiry Date.



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- 2.3.2 The TSP shall timely comply with all the requirements that may be laid down by the Commission for extension of the term of the Transmission License beyond the initial term of twenty-five (25) years & upto the Expiry Date and the TSP shall keep the Nodal Agency fully informed about the progress on its application for extension of the term of the Transmission License.

## 2.4 Survival:

The expiry or termination of this Agreement shall not affect any accrued rights, obligations/ roles and liabilities of the Parties under this Agreement, including the right to receive liquidated damages as per the terms of this Agreement, nor shall it effect the survival of any continuing obligations/ roles for which this Agreement provides, either expressly or by necessary implication, which are to survive after the Expiry Date or termination including those under Articles 3.3.3, 3.3.5, Article 9.3 (Application of Insurance Proceeds), Article 11 (Force Majeure), Article 13 (Events of Default and Termination), Article 14 (Liability & Indemnification), Article 16 (Governing Law & Dispute Resolution), Article 19 (Miscellaneous).

## 2.5 Applicability of the provisions of this Agreement

- 2.5.1 For the purpose of Availability, Target Availability and the computation of Availability, Incentive, Penalty, the provisions provided in this Agreement shall apply and any future modifications in the relevant Rules and Regulations shall not be applicable for this Project.
- 2.5.2 For the purposes of this Agreement for ISTS systems developed under the tariff based competitive bidding framework, the provisions relating to the definitions (Availability and COD), Article 3 (Contract Performance Guarantee and Conditions Subsequent), Article 5 (Construction of the Project), Article 6 (Connection and Commissioning of the Project), Article 8 (Target Availability and calculation of Availability), Article 11 (Force Majeure), Article 12 (Change in Law), Article 13 (Event of Default), Article 14 (Indemnification), Article 15 (Assignment and Charges), Articles 16.1, 16.2 and 16.4 (Governing Laws and Dispute Resolution) and Article 17 (representation and warranties of the ISTS Licensee) of this agreement shall supersede the corresponding provisions under Sharing Regulations.



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**ARTICLE: 3****3 Conditions Subsequent****3.1 Satisfaction of conditions subsequent by the TSP**

3.1.1 Within ten (10) days from the date of issue of Letter of Intent, the Selected Bidder, shall:

- a. Provide the Contract Performance Guarantee, and
- b. Acquire, for the Acquisition Price, one hundred percent (100%) equity shareholding of Ishanagar Power Transmission Limited from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of Ishanagar Power Transmission Limited, along with all its related assets and liabilities.
- c. Execute this Agreement;

The TSP shall, within five (5) working days from the date of acquisition of SPV by the Selected Bidder, undertake to apply to the Commission for the grant of Transmission License and for the adoption of tariff as required under section-63 of the Electricity Act.

The Selected Bidder, on behalf of the TSP, will provide to the Central Transmission Utility of India Limited (being the Nodal Agency) the Contract Performance Guarantee for an amount of Rs. 22.00 Crore (Rupees Twenty-Two Crore only).

3.1.2 The Contract Performance Guarantee shall be initially valid for a period up to three (3) months after the Scheduled COD of the Project and shall be extended from time to time to be valid for a period up to three (3) months after the COD of the Project. In case the validity of the Contract Performance Guarantee is expiring before the validity specified in this Article, the TSP shall, at least thirty (30) days before the expiry of the Contract Performance Guarantee, replace the Contract Performance Guarantee with another Contract Performance Guarantee or extend the validity of the existing Contract Performance Guarantee until the validity period specified in this Article.

3.1.3 The TSP agrees and undertakes to duly perform and complete the following activities within six (6) months from the Effective Date (except for c) below), unless such completion is affected due to any Force Majeure Event, or if any of the activities is specifically waived in writing by the Nodal Agency:



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- a. To obtain the Transmission License for the Project from the Commission;
- b. To obtain the order for adoption of Transmission Charges by the Commission, as required under Section 63 of the Electricity Act 2003;
- c. To submit to the Nodal Agency, CEA & Independent Engineer, the Project Execution Plan, immediately after award of contract(s) and maximum within one hundred and twenty (120) days from the Effective Date. Also, an approved copy each of Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) would be submitted to Independent Engineer & Nodal Agency in the same time period. The TSP's Project Execution Plan should be in conformity with the Scheduled COD as specified in Schedule 2 of this Agreement, and shall bring out clearly the organization structure, time plan and methodology for executing the Project, award of major contracts, designing, engineering, procurement, shipping, construction, testing and commissioning to commercial operation;
- d. To submit to the Nodal Agency, CEA & Independent Engineer a detailed bar (GANTT) chart of the Project outlining each activity (taking longer than one Month), linkages as well as durations;
- e. To submit to the Nodal Agency, CEA & Independent Engineer detailed specifications of conductor meeting the functional specifications specified in RFP;
- f. To achieve Financial Closure;
- g. To provide an irrevocable letter to the Lenders duly accepting and acknowledging the rights provided to the Lenders under the provisions of Article 15.3 of this Agreement and all other RFP Project Documents;
- h. To award the Engineering, Procurement and Construction contract ("EPC contract") for the design and construction of the Project and shall have given to such Contractor an irrevocable notice to proceed; and
- i. To sign the Agreement(s) required, if any, under Sharing Regulations.

### 3.2 Recognition of Lenders' Rights by the Nodal Agency

#### 3.2.1

The Nodal Agency hereby accepts and acknowledges the rights provided to the Lenders as per Article 15.3 of this Agreement and all other RFP Project Documents.



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### 3.3 Consequences of non-fulfilment of conditions subsequent

3.3.1 If any of the conditions specified in Article 3.1.3 is not duly fulfilled by the TSP even within three (3) Months after the time specified therein, then on and from the expiry of such period and until the TSP has satisfied all the conditions specified in Article 3.1.3, the TSP shall, on a monthly basis, be liable to furnish to Central Transmission Utility of India Limited (being the Nodal Agency) additional Contract Performance Guarantee of Rupees Two Crore and Twenty Lakh Only (Rs. 2.20 Crore) within two (2) Business Days of expiry of every such Month. Such additional Contract Performance Guarantee shall be provided to Central Transmission Utility of India Limited (being the Nodal Agency) in the manner provided in Article 3.1.1 and shall become part of the Contract Performance Guarantee and all the provisions of this Agreement shall be construed accordingly. Central Transmission Utility of India Limited (being the Nodal Agency) shall be entitled to hold and / or invoke the Contract Performance Guarantee, including such additional Contract Performance Guarantee, in accordance with the provisions of this Agreement.

3.3.2 Subject to Article 3.3.4, if:

- (i) the fulfilment of any of the conditions specified in Article 3.1.3 is delayed beyond nine (9) Months from the Effective Date and the TSP fails to furnish additional Contract Performance Guarantee to the Nodal Agency in accordance with Article 3.3.1 hereof; or
- (ii) the TSP furnishes additional Performance Guarantee to the Nodal Agency in accordance with Article 3.3.1 hereof but fails to fulfil the conditions specified in Article 3.1.3 within a period of twelve (12) months from the Effective Date,

the Nodal Agency shall have the right to terminate this Agreement, by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.

3.3.3 If the Nodal Agency elects to terminate this Agreement as per the provisions of Article 3.3.2, the TSP shall be liable to pay to the Nodal Agency an amount of Rs. 22.00 Crore (Rupees Twenty-Two Crore only) as liquidated damages. The Nodal Agency shall be entitled to recover this amount of damages by invoking the Contract Performance Guarantee to the extent of liquidated damages, which shall be required by the Nodal Agency, and the balance shall be returned to TSP, if any.



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It is clarified for removal of doubt that this Article shall survive the termination of this Agreement.

- 3.3.4 In case of inability of the TSP to fulfil the conditions specified in Article 3.1.3 due to any Force Majeure Event, the time period for fulfilment of the condition subsequent as mentioned in Article 3.1.3, may be extended for a period of such Force Majeure Event. Alternatively, if deemed necessary, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement and the Contract Performance Guarantee shall be returned as per the provisions of Article 6.5.1.

Provided, that due to the provisions of this Article 3.3.4, any increase in the time period for completion of conditions subsequent mentioned under Article 3.1.3, shall lead to an equal increase in the time period for the Scheduled COD. If the Scheduled COD is extended beyond a period of one hundred eighty (180) days due to the provisions of this Article 3.3.4, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9.

- 3.3.5 Upon termination of this Agreement as per Articles 3.3.2 and 3.3.4, the Nodal Agency may take steps to bid out the Project again.
- 3.3.6 The Nodal agency, on the failure of the TSP to fulfil its obligations, if it considers that there are sufficient grounds for so doing, apart from invoking the Contract Performance Guarantee under para 3.3.3 may also initiate proceedings for blacklisting the TSP as per provisions of Article 13.2 of TSA.

### 3.4 Progress Reports

The TSP shall notify the Nodal Agency and CEA in writing at least once a Month on the progress made in satisfying the conditions subsequent in Articles 3.1.3.



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**ARTICLE: 4****4 Development of the Project****4.1 TSP's obligations in development of the Project:**

Subject to the terms and conditions of this Agreement, the TSP at its own cost and expense shall observe, comply with, perform, undertake and be responsible:

- a. for procuring and maintaining in full force and effect all Consents, Clearances and Permits, required in accordance with Law for development of the Project;
- b. for financing, constructing, owning and commissioning each of the Element of the Project for the scope of work set out in Schedule 1 of this Agreement in accordance with:
  - i. the Electricity Act and the Rules made thereof;
  - ii. the Grid Code;
  - iii. the CEA Regulations applicable, and as amended from time to time, for Transmission Lines and sub-stations:
    - the Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007;
    - Central Electricity Authority (Technical Standards for construction of Electrical Plants and Electric Lines) Regulation, 2010;
    - Central Electricity Authority (Grid Standard) Regulations, 2010;
    - Central Electricity Authority (Safety requirements for construction, operation and maintenance of Electrical Plants and Electrical Lines) Regulation, 2011;
    - Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulation, 2010;
    - Central Electricity Authority (Technical Standards for Communication System in Power System Operation) Regulations, 2020.
  - iv. Safety/ security Guidelines laid down by the Government;



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- v. Prudent Utility Practices, relevant Indian Standards and the Law;

not later than the Scheduled COD as per Schedule 2 of this Agreement;

- c. for entering into a Connection Agreement with the concerned parties in accordance with the Grid Code.
- d. for owning the Project throughout the term of this Agreement free and clear of any encumbrances except those expressly permitted under Article 15 of this Agreement;
- e. to co-ordinate and liaise with concerned agencies and provide on a timely basis relevant information with regard to the specifications of the Project that may be required for interconnecting the Project with the Interconnection Facilities;
- f. for providing all assistance to the Arbitrators as they may require for the performance of their duties and responsibilities;
- g. to provide to the Nodal Agency and CEA, on a monthly basis, progress reports with regard to the Project and its execution (in accordance with prescribed form) to enable the CEA to monitor and co-ordinate the development of the Project matching with the Interconnection Facilities;
- h. to comply with Ministry of Power order no. 25-11/6/2018 – PG dated 02.07.2020 as well as other Guidelines issued by Govt. of India pertaining to this;
- i. to procure the products associated with the Transmission System as per provisions of Public Procurement (Preference to Make in India) orders issued by Ministry of Power vide orders No. 11/5/2018 - Coord. dated 28.07.2020 for transmission sector, as amended from time to time read with Department for Promotion of Industry and Internal Trade (DPIIT) orders in this regard (Procuring Entity as defined in above orders shall deemed to have included Selected Bidder and/ or TSP).

Also, to comply with Department of Expenditure, Ministry of Finance vide Order (Public Procurement No 1) bearing File No. 6/18/2019-PPD dated 23.07.2020, Order (Public Procurement No 2) bearing File No. 6/18/2019-PPD dated 23.07.2020 and Order (Public Procurement No. 3) bearing File No. 6/18/2019-PPD, dated 24.07.2020 as amended



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from time to time, regarding public procurement from a bidder of a country, which shares land border with India;

- j. to submit to Nodal Agency information in the prescribed format [To be devised by Nodal Agency] for ensuring compliance to Article 4.1 i) above.
- k. to comply with all its obligations undertaken in this Agreement.

### 4.2 Roles of the Nodal Agency in implementation of the Project:

4.2.1 Subject to the terms and conditions of this Agreement, the Nodal Agency shall be the holder and administrator of this Agreement and shall inter alia:

- a. appoint an Independent Engineer within 90 days of the Effective Date
- b. provide letters of recommendation to the concerned Indian Governmental Instrumentality, as may be requested by the TSP from time to time, for obtaining the Consents, Clearances and Permits required for the Project;
- c. coordinate among TSP and upstream/downstream entities in respect of Interconnection Facilities; and
- d. monitor the implementation of the Agreement and take appropriate action for breach thereof including revocation of guarantees, cancellation of Agreement, blacklisting etc
- e. provide all assistance to the Arbitrators as required for the performance of their duties and responsibilities; and
- f. perform any other responsibility (ies) as specified in this Agreement.

### 4.3 Time for Commencement and Completion:

- a. The TSP shall take all necessary steps to commence work on the Project from the Effective Date of the Agreement and shall achieve Scheduled COD of the Project in accordance with the time schedule specified in Schedule 2 of this Agreement;
- b. The COD of each Element of the Project shall occur no later than the Scheduled COD or within such extended time to which the TSP shall be entitled under Article 4.4 hereto.



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**4.4 Extension of time:**

- 4.4.1 In the event that the TSP is unable to perform its obligations for the reasons solely attributable to the Nodal Agency, the Scheduled COD shall be extended, by a 'day to day' basis, subject to the provisions of Article 13.
- 4.4.2 In the event that an Element or the Project cannot be commissioned by its Scheduled COD on account of any Force Majeure Event as per Article 11, the Scheduled COD shall be extended, by a 'day to day' basis for a period of such Force Majeure Event. Alternatively, if deemed necessary, the Nodal Agency may terminate the Agreement as per the provisions of Article 13.4 by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.
- 4.4.3 If the Parties have not agreed, within thirty (30) days after the affected Party's performance has ceased to be affected by the relevant circumstance, on how long the Scheduled COD should be deferred by, any Party may raise the Dispute to be resolved in accordance with Article 16.

**4.5 Metering Arrangements:**

- 4.5.1 The TSP shall comply with all the provisions of the IEGC and the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006 as amended from time to time, with regard to the metering arrangements for the Project. The TSP shall fully cooperate with the CTU / STU / RLDC and extend all necessary assistance in taking meter readings.

**4.6 Interconnection Facilities:**

- 4.6.1 Subject to the terms and conditions of this Agreement, the TSP shall be responsible for connecting the Project with the interconnection point(s) specified in Schedule 1 of this Agreement. The Interconnection Facilities shall be developed as per the scope of work and responsibilities assigned in Schedule 1 of this Agreement. The Nodal Agency shall be responsible for coordinating to make available the Interconnection Facilities.
- 4.6.2 In order to remove any doubts, it is made clear that the obligation of the TSP within the scope of the project is to construct the Project as per Schedule-1 of this Agreement and in particular to connect it to the Interconnection Facilities as specified in this Agreement.



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**ARTICLE: 5****5 Construction of the Project****5.1 TSP's Construction Responsibilities:**

- 5.1.1 The TSP, at its own cost and expense, shall be responsible for designing, constructing, erecting, testing and commissioning each Element of the Project by the Scheduled COD in accordance with the Regulations and other applicable Laws specified in Article 4.1 of this Agreement.
- 5.1.2 The TSP acknowledges and agrees that it shall not be relieved from any of its obligations under this Agreement or be entitled to any extension of time or any compensation whatsoever by reason of the unsuitability of the Site or Transmission Line route(s).
- 5.1.3 The TSP shall be responsible for obtaining all Consents, Clearances and Permits related but not limited to road / rail / river / canal / power line / crossings, Power and Telecom Coordination Committee (PTCC), defence, civil aviation, right of way / way-leaves and environmental & forest clearances from relevant authorities required for developing, financing, constructing, maintaining/ renewing all such Consents, Clearances and Permits in order to carry out its obligations under this Agreement in general and shall furnish to the Nodal Agency such copy/ies of each Consents, Clearances and Permits, on demand. Nodal Agency shall provide letters of recommendation to the concerned Indian Governmental Instrumentality, as may be requested by the TSP from time to time, for obtaining the Consents, Clearances and Permits required for the Project.
- 5.1.4 The TSP shall be responsible for:
- (a) acquisition of land for location specific substations, switching stations or HVDC terminal or inverter stations. Also, the actual location of Greenfield substations (Switching Stations or HVDC Terminal or Inverter Stations) for a generation pooling substation and for load serving substations in the scope of TSP shall not be beyond 3 Km radius of the location proposed by the BPC in the survey report. However, actual location of any Greenfield Intermediate Substations in the scope of TSP shall not be beyond 10 Km radius of the location proposed by the BPC in the Survey Report.

(b)

final selection of Site including its geo-technical investigation.



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- (c) survey and geo-technical investigation of line route in order to determine the final route of the Transmission Lines;
- (d) seeking access to the Site and other places where the Project is being executed, at its own risk and costs, including payment of any crop, tree compensation or any other compensation as may be required.

5.1.5 In case the Project involves any resettlement and rehabilitation, the resettlement and rehabilitation package will be implemented by the State Government authorities, for which the costs is to be borne by the TSP and no changes would be allowed in the Transmission Charges on account of any variation in the resettlement and rehabilitation cost. The TSP shall provide assistance on best endeavour basis, in implementation of the resettlement and rehabilitation package, if execution of such package is in the interest of expeditious implementation of the Project and is beneficial to the Project affected persons.

## 5.2 Appointing Contractors:

- 5.2.1 The TSP shall conform to the requirements as provided in this Agreement while appointing Contractor(s) for procurement of goods & services.
- 5.2.2 The appointment of such Contractor(s) shall neither relieve the TSP of any of its obligations under this Agreement nor make the Nodal Agency liable for the performance of such Contractor(s).

## 5.3 Monthly Progress Reporting:

The TSP shall provide to the CEA, Nodal Agency & Independent Engineer, on a monthly basis, progress reports along with likely completion date of each Element with regard to the Project and its execution (in accordance with prescribed form). The Nodal Agency/ CEA shall monitor the development of the Project for its timely completion for improving and augmenting the electricity system as a part of its statutory responsibility.

## 5.4 Quality of Workmanship:

The TSP shall ensure that the Project is designed, built and completed in a good workmanship using sound engineering and construction practices, and using only materials and equipment that are new and manufactured as per the MQP and following approved FQP for erection, testing & commissioning and complying with Indian /International Standards such that, the useful life of the Project will be at least thirty five (35) years from the COD of the Project.



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The TSP shall ensure that all major substation equipment / component (e.g. transformers, reactors, Circuit Breakers, Instrument Transformers (IT), Surge Arresters (SA), Protection relays, clamps & connectors etc.), equipment in terminal stations of HVDC installations including Thyristor/ IGBT valves, Converter Transformers, smoothing reactors, Transformer bushings and wall bushings, GIS bus ducts, towers and gantry structures and transmission towers or poles and line materials (conductors, earthwire, OPGW, insulator, accessories for conductors, OPGW & earthwires, hardware fittings for insulators, aviation lights etc), facilities and system shall be designed, constructed and tested (Type test, Routine tests, Factory Acceptance Test (FAT)) in accordance with relevant CEA Regulations and Indian Standards. In case Indian Standards for any particular equipment/ system/ process is not available, IEC/ IEEE or equivalent International Standards and Codes shall be followed.

### 5.5 Progress Monitoring & Quality Assurance:

- 5.5.1 The Project Execution Plan submitted by the TSP in accordance with Article 3.1.3 c) shall comprise of detailed schedule of all the equipments/items /materials required for the Project, right from procurement of raw material till the dispatch from works and receipt at the site. Further, it should also include various stages of the construction schedule up to the commissioning of the Project.
- 5.5.2 Nodal Agency, CEA & Independent Engineer shall have access at all reasonable times to the Site and to the Manufacturer's works and to all such places where the Project is being executed.
- 5.5.3 Independent Engineer shall ensure conformity of the conductor specifications with the functional specifications specified in RFP.
- 5.5.4 The Independent Engineer shall monitor the following during construction of the Project:
- Quality of equipments, material, foundation, structures and workmanship etc. as laid down in Article 5.4 and 6.1.4 of the TSA. Specifically, quality of Sub-station equipments, transmission line material and workmanship etc. would be checked in accordance with the Article 5.4.
  - Progress in the activities specified in Condition Subsequent
  - Verification of readiness of the elements including the statutory clearances & completion of civil works, fixing of all components and finalisation of punch points (if any) prior to charging of the elements



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## d) Progress of construction of substation and Transmission Lines

5.5.5 The progress shall be reviewed by the Independent Engineer against the Project Execution Plan. The Independent Engineer shall prepare its report on monthly basis and submit the same to Nodal Agency highlighting the progress achieved till the end of respective month vis-à-vis milestone activities, areas of concern, if any, which may result in delay in the timely completion of the Project. Based on the progress, Nodal Agency and/ or CEA shall issue written instructions to the TSP to take corrective measures, as may be prudent for the timely completion of the Project. In case of any deficiency, the Nodal Agency would be at liberty to take action in accordance with the procedure of this Agreement.

5.5.6 For any delay in commissioning any critical Element(s), as identified in Schedule 1 & Schedule 2 of this Agreement, beyond a period of 45 days shall lead to a sequestration of 10% of the Contract Performance Guarantee.

**5.6 Site regulations and Construction Documents**

The TSP shall abide by the Safety Rules and Procedures as mentioned in Schedule 3 of this Agreement

The TSP shall retain at the Site and make available for inspection at all reasonable times, copies of the Consents, Clearances and Permits, construction drawings and other documents related to construction.

**5.7 Supervision of work:**

The TSP shall provide all necessary superintendence for execution of the Project and its supervisory personnel shall be available to provide full-time superintendence for execution of the Project. The TSP shall provide skilled personnel who are experienced in their respective fields.

**5.8 Remedial Measures:**

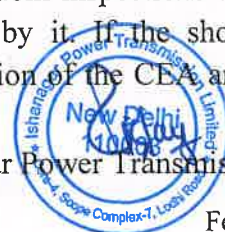
The TSP shall take all necessary actions for remedying the shortfall in achievement of timely progress in execution of the Project, if any, as intimated by the Independent Engineer and/ or CEA and/ or the Nodal Agency. However, such intimation by the Independent Engineer and/ or CEA and/ or the Nodal Agency and the subsequent effect of such remedial measures carried out by the TSP shall not relieve the TSP of its obligations in the Agreement. Independent Engineer and/ or CEA and/ or the Nodal Agency may carry out random inspections during the Project execution, as and when deemed necessary by it. If the shortfalls as intimated to the TSP are not remedied to the satisfaction of the CEA, and/ or the



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Nodal Agency, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement .



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**ARTICLE: 6****6 Connection and commissioning of the Project****6.1 Connection with the Inter-Connection Facilities:**

6.1.1 The TSP shall give the RLDC(s), CTU, / STU, as the case may be, and any other agencies as required, at least sixty (60) days advance written notice of the date on which it intends to connect an Element of the Project, which date shall not be earlier than its Scheduled COD or Schedule COD extended as per Article 4.4.1 & 4.4.2 of this Agreement, unless mutually agreed to by Parties. Further, any preponing of COD of any element prior to Scheduled COD must be approved by the Nodal Agency.

6.1.2 The RLDC / SLDC (as the case may be) or the CTU / STU (as the case may be), for reasonable cause, including non-availability of Interconnection Facilities as per Article 4.2, can defer the connection for up to fifteen (15) days from the date notified by the TSP pursuant to Article 6.1.1, if it notifies to the TSP in writing, before the date of connection, of the reason for the deferral and when the connection is to be rescheduled. However, no such deferment on one or more occasions would be for more than an aggregate period of thirty (30) days. Further, the Scheduled COD would be extended as required, for all such deferments on "day to day" basis.

6.1.3 Subject to Articles 6.1.1 and 6.1.2, any Element of Project may be connected with the Interconnection Facilities when:

- a. it has been completed in accordance with this Agreement and the Connection Agreement;
- b. it meets the Grid Code, Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007 as amended from time to time and all other Indian legal requirements, and
- c. The TSP has obtained the approval in writing of the Electrical Inspector certifying that the Element is ready from the point of view of safety of supply and can be connected with the Interconnection Facilities.
- d. It has satisfactorily met all the testing requirements as per Articles 6.1.4



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- 6.1.4 Site Acceptance Test (SAT)/ pre-commissioning tests of all major substation equipment, component, system, facilities shall be successfully carried out before commissioning. The Type tests, FAT and SAT reports should be available at the substation / terminal station of HVDC installations for ready reference of operation and maintenance staff and has to be made available to the Independent Engineer appointed for quality monitoring or their authorised representatives, as and when they wish to examine the same.

## 6.2 Commercial Operation:

- 6.2.1 An Element of the Project shall be declared to have achieved COD twenty four (24) hours following the connection of the Element with the Interconnection Facilities pursuant to Article 6.1 or seven (7) days after the date on which it is declared by the TSP to be ready for charging but is not able to be charged for reasons not attributable to the TSP subject to Article 6.1.2.

Provided that an Element shall be declared to have achieved COD only after all the Element(s), if any, which are pre-required to have achieved COD as defined in Schedule 2 of this Agreement, have been declared to have achieved their respective COD.

- 6.2.2 Once any Element of the Project has been declared to have achieved deemed COD as per Article 6.2.1 above, such Element of the Project shall be deemed to have Availability equal to the Target Availability till the actual charging of the Element and to this extent, TSP shall be eligible for the Monthly Transmission Charges applicable for such Element

## 6.3 Compensation for Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event (affecting the Nodal Agency)

- 6.3.1 If the TSP is otherwise ready to connect the Element(s) of the Project and has given due notice, as per provisions of Article 6.1.1, to the concerned agencies of the date of intention to connect the Element(s) of the Project, where such date is not before the Scheduled COD, but is not able to connect the Element(s) of the Project by the said date specified in the notice, due to Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, provided such Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency has continued for a period of more than three (3) continuous or non-continuous Months, the TSP shall, until the



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effects of the Direct Non Natural Force Majeure Event or of Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency no longer prevent the TSP from connecting the Element(s) of the Project, be deemed to have achieved COD relevant to that date and to this extent, be deemed to have been providing Transmission Service with effect from the date notified, and shall be treated as follows:

- a. In case of delay due to Direct Non Natural Force Majeure Event, TSP is entitled for Transmission Charges calculated on Target Availability for the period of such events in excess of three (3) continuous or non continuous Months in the manner provided in (c) below.
- b. In case of delay due to Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, TSP is entitled for payment for debt service which is due under the Financing Agreements, subject to a maximum of Transmission Charges calculated on Target Availability, for the period of such events in excess of three (3) continuous or non continuous Months in the manner provided in (c) below.
- c. In case of delay due to Direct Non Natural Force Majeure Event or Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency, the TSP is entitled for payments mentioned in (a) and (b) above, after commencement of Transmission Service, in the form of an increase in Transmission Charges. These amounts shall be paid from the date, being the later of a) the date of cessation of such Indirect Non Natural Force Majeure Event or Natural Force Majeure Event affecting the Nodal Agency and b) the completion of sixty (60) days from the receipt of the Financing Agreements by the Nodal Agency from the TSP.

Provided such increase in Transmission Charges shall be so as to put the TSP in the same economic position as the TSP would have been in case the TSP had been paid amounts mentioned in (a) and (b) above in a situation where the Force Majeure Event had not occurred.

For the avoidance of doubt, it is clarified that the charges payable under this Article 6.3.1 shall be recovered as per Sharing Regulations.

#### **Liquidated Damages for Delay in achieving COD of Project:**

If the TSP fails to achieve COD of any Element of the Project or the Project, by



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the Element's / Project's Scheduled COD or such Scheduled COD as extended under Articles 4.4.1 and 4.4.3, then the TSP shall pay to the Nodal Agency, a sum equivalent to 3.33% of Monthly Transmission Charges applicable for the Element of the Project [in case where no Elements have been defined, to be on the Project as a whole] / Project, for each day of delay up to sixty (60) days of delay and beyond that time limit, at the rate of five percent (5%) of the Monthly Transmission Charges applicable to such Element / Project, as liquidated damages for such delay and not as penalty, without prejudice to any rights of the Nodal Agency under the Agreement.

- 6.4.2 The TSP's maximum liability under this Article 6.4 shall be limited to the amount of liquidated damages calculated in accordance with Article 6.4.1 for and up to six (6) months of delay for the Element or the Project.

Provided that, in case of failure of the TSP to achieve COD of the Element of the Project even after the expiry of six (6) months from its Scheduled COD, the provisions of Article 13 shall apply.

- 6.4.3 The TSP shall make payment to the Nodal Agency of the liquidated damages calculated pursuant to Article 6.4.1 within ten (10) days of the earlier of:

- a. the date on which the applicable Element achieves COD; or
- b. the date of termination of this Agreement.

The payment of such damages shall not relieve the TSP from its obligations to complete the Project or from any other obligation and liabilities under the Agreement.

- 6.4.4 If the TSP fails to pay the amount of liquidated damages to the Nodal Agency within the said period of ten (10) days, the Nodal Agency shall be entitled to recover the said amount of the liquidated damages by invoking the Contract Performance Guarantee. If the then existing Contract Performance Guarantee is for an amount which is less than the amount of the liquidated damages payable by the TSP to the Nodal Agency under this Article 6.3 and the TSP fails to make payment of the balance amount of the liquidated damages not covered by the Contract Performance Guarantee, then such balance amount shall be deducted from the Transmission Charges payable to the TSP. The right of the Nodal Agency to encash the Contract Performance Guarantee is without prejudice to the other rights of the Nodal Agency under this Agreement.



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- 6.4.5 For avoidance of doubt, it is clarified that amount payable by TSP under this Article is over and above the penalty payable by TSP under Article 5.5.6 of this Agreement.

**6.5 Return of Contract Performance Guarantee**

- 6.5.1 The Contract Performance Guarantee as submitted by TSP in accordance with Article 3.1.1 shall be released by the Nodal Agency within three (3) months from the COD of the Project. In the event of delay in achieving Scheduled COD of any of the Elements by the TSP (otherwise than due to reasons as mentioned in Article 3.1.3 or Article 11) and consequent part invocation of the Contract Performance Guarantee by the Nodal Agency, Nodal Agency shall release the Contract Performance Guarantee, if any remaining unadjusted, after the satisfactory completion by the TSP of all the requirements regarding achieving the Scheduled COD of the remaining Elements of the Project. It is clarified that the Nodal Agency shall also return / release the Contract Performance Guarantee in the event of (i) applicability of Article 3.3.2 to the extent the Contract Performance Guarantee is valid for an amount in excess of Rs. 22.00 Crore (Rupees Twenty-Two Crore only), or (ii) termination of this Agreement by the Nodal Agency as mentioned under Article 3.3.4 of this Agreement.
- 6.5.2 The release of the Contract Performance Guarantee shall be without prejudice to other rights of the Nodal Agency under this Agreement.



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**ARTICLE: 7****7 Operation and Maintenance of the Project****7.1 Operation and Maintenance of the Project:**

The TSP shall be responsible for ensuring that the Project is operated and maintained in accordance with the regulations made by the Commission and CEA from time to time and provisions of the Act.



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**ARTICLE: 8****8 Availability of the project****8.1 Calculation of Availability of the Project:**

Calculation of Availability for the Elements and for the Project, as the case may be, shall be as per Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, as applicable on the Bid Deadline and as appended in Schedule 6 of this Agreement.

**8.2 Target Availability:**

The Target Availability of each Element and the Project shall be 98%.

Payment of monthly Transmission charges based on actual availability will be calculated as per para 1.2 of Schedule 4 of this Agreement.

If the availability of any Element or the Project is below the Target Availability, for six consecutive months in a Contract Year, the DIC(s) or the Nodal Agency may issue a show cause notice to the TSP, asking them to show cause as to why the Transmission Service Agreement be not terminated, and if no satisfactory cause is shown it may terminate the Agreement. If the Nodal Agency is of the opinion that the transmission system is of critical importance, it may carry out or cause to carry the operation and maintenance of transmission system at the risk and cost of TSP.



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**ARTICLE: 9****9 Insurances****9.1 Insurance:**

9.1.1 The TSP shall effect and maintain or cause to be effected and maintained during the Construction Period and the Operating Period, adequate Insurances against such risks, with such deductibles including but not limited to any third party liability and endorsements and co-beneficiary/insured, as may be necessary under

- a. any of the Financing Agreements,
- b. the Laws, and
- c. in accordance with Prudent Utility Practices.

The Insurances shall be taken effective from a date prior to the date of the Financial Closure till the Expiry Date.

**9.2 Evidence of Insurance cover:**

9.2.1 The TSP shall furnish to the Nodal Agency copies of certificates and policies of the Insurances, as and when the Nodal Agency may seek from the TSP as per the terms of Article 9.1

**9.3 Application of Insurance Proceeds:**

9.3.1 Save as expressly provided in this Agreement, the policies of Insurances and the Financing Agreements, the proceeds of any insurance claim made due to loss or damage to the Project or any part of the Project shall be first applied to reinstatement, replacement or renewal of such loss or damage.

9.3.2 If a Natural Force Majeure Event renders the Project no longer economically and technically viable and the insurers under the Insurances make payment on a "total loss" or equivalent basis, the portion of the proceeds of such Insurance available to the TSP (after making admissible payments to the Lenders as per the Financing Agreements) shall be allocated only to the TSP. Nodal Agency and / or concerned Designated ISTS Customers shall have no claim on such proceeds of the Insurance.

9.3.3 Subject to the requirements of the Lenders under the Financing Agreements, any

dispute or difference between the Parties as to whether the Project is no longer economically and technically viable due to a Force Majeure Event or whether that event was adequately covered in accordance with this Agreement by the Insurances shall be determined in accordance with Article 16.

**9.4 Effect on liability of the Nodal Agency / Designated ISTS Customers**

- 9.4.1 The Nodal Agency and / or the Designated ISTS Customers shall have no financial obligations or liability whatsoever towards the TSP in respect of this Article 9.



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**ARTICLE: 10****10 Billing And Payment of Transmission Charges**

**10.1** Subject to provisions of this Article 10, the Monthly Transmission Charges shall be paid to the TSP, in Indian Rupees, on monthly basis as per the provisions of the Sharing Regulations, from the date on which an Element(s) has achieved COD until the Expiry Date of this Agreement, unless terminated earlier and in line with the provisions of Schedule 4 of this Agreement.

**10.2 Calculation of Monthly Transmission Charges:**

The Monthly Transmission Charges for each Contract Year including Incentive & Penalty payment shall be calculated in accordance with the provisions of Schedule 4 of this Agreement.

**10.3 Rebate & Late Payment Surcharge:**

The rebate and late payment surcharge shall be governed as per Sharing Regulations.

**10.4 Disputed Bills, Default in payment by the Designated ISTS Customers & Annual Reconciliation:**

Any Disputed Bill, Default in payment by the Designated ISTS Customers & Annual Reconciliation shall be governed as per Sharing Regulations.



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**ARTICLE: 11****11 Force Majeure****11.1 Definitions**

11.1.1 The following terms shall have the meanings given hereunder.

**11.2 Affected Party**

11.2.1 An Affected Party means any Party whose performance has been affected by an event of Force Majeure.

11.2.2 Any event of Force Majeure shall be deemed to be an event of Force Majeure affecting the TSP only if the Force Majeure event affects and results in, late delivery of machinery and equipment for the Project or construction, completion, commissioning of the Project by Scheduled COD and/or operation thereafter;

**11.3 Force Majeure**

A 'Force Majeure' means any event or circumstance or combination of events and circumstances including those stated below that wholly or partly prevents or unavoidably delays an Affected Party in the performance of its obligations/ roles under this Agreement, but only if and to the extent that such events or circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided if the Affected Party had taken reasonable care or complied with Prudent Utility Practices:

**(a) Natural Force Majeure Events:**

- i. act of God, including, but not limited to drought, fire and explosion (to the extent originating from a source external to the Site), earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, or exceptionally adverse weather conditions, which are in excess of the statistical measures for the last hundred (100) years; and
- ii. epidemic/ pandemic notified by Indian Governmental Instrumentality.

**(b) Non-Natural Force Majeure Events :****i. Direct Non-Natural Force Majeure Events**

- Nationalization or compulsory acquisition by any Indian Governmental Instrumentality of any material assets or rights of the



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Affected Party; or

- the unlawful, unreasonable or discriminatory revocation of, or refusal to renew, any Consents, Clearances and Permits required by the Affected Party to perform their obligations/ roles under the RFP Project Documents or any unlawful, unreasonable or discriminatory refusal to grant any other Consents, Clearances and Permits required for the development/ operation of the Project, provided that a Competent Court of Law declares the revocation or refusal to be unlawful, unreasonable and discriminatory and strikes the same down; or
- any other unlawful, unreasonable or discriminatory action on the part of an Indian Governmental Instrumentality which is directed against the Project, provided that a Competent Court of Law declares the action to be unlawful, unreasonable and discriminatory and strikes the same down.

ii. Indirect Non - Natural Force Majeure Events

- act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or
- radio active contamination or ionising radiation originating from a source in India or resulting from any other Indirect Non Natural Force Majeure Event mentioned above, excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the Site by the Affected Party or those employed or engaged by the Affected Party; or
- industry-wide strikes and labour disturbances, having a nationwide impact in India.

## 11.4 Force Majeure Exclusions

11.4.1 Force Majeure shall not include (i) any event or circumstance which is within the reasonable control of the Parties and (ii) the following conditions, except to the extent that they are consequences of an event of Force Majeure:

- (a) Unavailability, late delivery, or changes in cost of the machinery, equipment, materials, spare parts etc. for the Project;



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- (b) Delay in the performance of any Contractors or their agents;
- (c) Non-performance resulting from normal wear and tear typically experienced in transmission materials and equipment;
- (d) Strikes or labour disturbance at the facilities of the Affected Party;
- (e) Insufficiency of finances or funds or the Agreement becoming onerous to perform; and
- (f) Non-performance caused by, or connected with, the Affected Party's:
  - i. negligent or intentional acts, errors or omissions;
  - ii. failure to comply with an Indian Law; or
  - iii. breach of, or default under this Agreement or any Project Documents.
- (g) Any error or omission in the survey report provided by BPC during the bidding process.

## 11.5 Notification of Force Majeure Event

- 11.5.1 The Affected Party shall give notice to the other Party of any event of Force Majeure as soon as reasonably practicable, but not later than seven (7) days after the date on which such Party knew or should reasonably have known of the commencement of the event of Force Majeure. If an event of Force Majeure results in a breakdown of communications rendering it unreasonable to give notice within the applicable time limit specified herein, then the Party claiming Force Majeure shall give such notice as soon as reasonably practicable after reinstatement of communications, but not later than one (1) day after such reinstatement.

Provided that, such notice shall be a pre-condition to the Affected Party's entitlement to claim relief under this Agreement. Such notice shall include full particulars of the event of Force Majeure, its effects on the Party claiming relief and the remedial measures proposed. The Affected Party shall give the other Party regular reports on the progress of those remedial measures and such other information as the other Party may reasonably request about the Force Majeure.

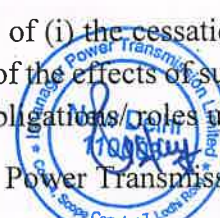
- 11.5.2 The Affected Party shall give notice to the other Party of (i) the cessation of the relevant event of Force Majeure; and (ii) the cessation of the effects of such event of Force Majeure on the performance of its rights or obligations/roles under this



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Agreement, as soon as practicable after becoming aware of each of these cessations.

### 11.6 Duty to perform and duty to mitigate

To the extent not prevented by a Force Majeure Event, the Affected Party shall continue to perform its obligations/ roles as provided in this Agreement. The Affected Party shall use its reasonable efforts to mitigate the effect of any event of Force Majeure as soon as practicable.

### 11.7 Available Relief for a Force Majeure Event

Subject to this Article 11,

- (a) no Party shall be in breach of its obligations/ roles pursuant to this Agreement to the extent that the performance of its obligations/ roles was prevented, hindered or delayed due to a Force Majeure Event;
- (b) each Party shall be entitled to claim relief for a Force Majeure Event affecting its performance in relation to its obligations/ roles under Articles 3.3.4, 4.4.2 and 6.3.1 of this Agreement.
- (c) For the avoidance of doubt, it is clarified that the computation of Availability of the Element(s) under outage due to Force Majeure Event, as per Article 11.3 affecting the TSP shall be as per Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 as on Bid Deadline. For the event(s) for which the Element(s) is/are deemed to be available as per Appendix –II to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, then the Transmission Charges, as applicable to such Element(s), shall be payable as per Schedule 4, for the duration of such event(s).
- (d) For so long as the TSP is claiming relief due to any Force Majeure Event under this Agreement, the Nodal Agency may, if it so desires, from time to time on one (1) day notice, inspect the Project and the TSP shall provide the Nodal Agency's personnel with access to the Project to carry out such inspections.
- (e) For avoidance of doubt, the TSP acknowledges that for extension of Scheduled COD a period up to one hundred eighty (180) days due to Force Majeure event, no compensation on the grounds such as interest cost, incident expenditure, opportunity cost will be made to the TSP. However, if Scheduled COD is extended beyond a period of one hundred eighty (180) days due to



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Force Majeure event, the TSP will be allowed to recover the interest cost during construction corresponding to the period exceeding one hundred eighty (180) days by adjustment in the Transmission Charges in accordance with Schedule 9.



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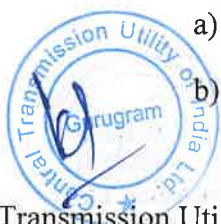
**ARTICLE: 12****12 Change in Law****12.1 Change in Law**

12.1.1 Change in Law means the occurrence of any of the following after the Bid Deadline resulting into any additional recurring / non-recurring expenditure by the TSP or any savings of the TSP:

- the enactment, coming into effect, adoption, promulgation, amendment, modification or repeal (without re-enactment or consolidation) in India, of any Law, including rules and regulations framed pursuant to such Law, subject to the provisions under Article 12.1.2;
- a change in the interpretation or application of any Law by any Indian Governmental Instrumentality having the legal power to interpret or apply such Law, or any Competent Court of Law;
- the imposition of a requirement for obtaining any Consents, Clearances and Permits which was not required earlier;
- a change in the terms and conditions prescribed for obtaining any Consents, Clearances and Permits or the inclusion of any new terms or conditions for obtaining such Consents, Clearances and Permits;
- any change in the licensing regulations of the Commission, under which the Transmission License for the Project was granted if made applicable by such Commission to the TSP;
- change in wind zone; or
- any change in tax or introduction of any tax made applicable for providing Transmission Service by the TSP as per the terms of this Agreement.

12.1.2 Notwithstanding anything contained in this Agreement, Change in Law shall not cover any change:

- a) Taxes on corporate income; and
- b) Withholding tax on income or dividends distributed to the shareholders of the TSP.



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**12.2 Relief for Change in Law**

12.2.1 During Construction Period, the impact of increase/decrease in the cost of the Project on the Transmission Charges shall be governed by the formula given in Schedule 9 of this Agreement.

12.2.2 During the Operation Period:

During the operation period, if as a result of Change in Law, the TSP suffers or is benefited from a change in costs or revenue, the aggregate financial effect of which exceeds 0.30% (zero point three percent) of the Annual Transmission Charges in aggregate for a Contract Year, the TSP may notify so to the Nodal Agency and propose amendments to this Agreement so as to place the TSP in the same financial position as it would have enjoyed had there been no such Change in Law resulting in change in costs or revenue as aforesaid.

12.2.3 For any claims made under Articles 12.2.1 and 12.2.2 above, the TSP shall provide to the Nodal Agency documentary proof of such increase / decrease in cost of the Project / revenue for establishing the impact of such Change in Law.

In cases where Change in Law results in decrease of cost and it comes to the notice of Nodal Agency that TSP has not informed Nodal Agency about such decrease in cost, Nodal Agency may initiate appropriate claim.

**12.3 Notification of Change in Law:**

12.3.1 If the TSP is affected by a Change in Law in accordance with Article 12.1 and wishes to claim relief for such Change in Law under this Article 12, it shall give

  
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notice to Nodal Agency of such Change in Law as soon as reasonably practicable after becoming aware of the same.

- 12.3.2 The TSP shall also be obliged to serve a notice to the Nodal Agency even when it is beneficially affected by a Change in Law.
- 12.3.3 Any notice served pursuant to Articles 12.3.1 and 12.3.2 shall provide, amongst other things, precise details of the Change in Law and its estimated impact on the TSP.

**12.4 Payment on account of Change in Law**

- 12.4.1 The payment for Change in Law shall be through a separate Bill. However, in case of any change in Monthly Transmission Charges by reason of Change in Law, as determined in accordance with this Agreement, the Bills to be raised by the Nodal Agency after such change in Transmission Charges shall appropriately reflect the changed Monthly Transmission Charges.



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**ARTICLE: 13****13 Events of Default and Termination****13.1 TSP's Event of Default**

The occurrence and continuation of any of the following events shall constitute a TSP Event of Default, unless any such TSP Event of Default occurs as a result of any non-fulfilment of its obligations as prescribed under this Agreement by the Nodal Agency or a Force Majeure Event:

- a. After having taken up the construction of the Project, the abandonment by the TSP or the TSP's Contractors of the construction of the Project for a continuous period of two (2) months and such default is not rectified within thirty (30) days from the receipt of notice from the Nodal Agency in this regard;
- b. The failure to commission any Element of the Project by the date falling six (6) months after its Scheduled COD unless extended by Nodal Agency as per provisions of this Agreement;
- c. If the TSP:
  - i. assigns, mortgages or charges or purports to assign, mortgage or charge any of its assets or rights related to the Project in contravention of the provisions of this Agreement; or
  - ii. transfers or novates any of its obligations pursuant to this Agreement, in a manner contrary to the provisions of this Agreement;

Except where such transfer is in pursuance of a Law and

- it does not affect the ability of the transferee to perform, and such transferee has the financial and technical capability to perform, its obligations under this Agreement;
- is to a transferee who assumes such obligations under the Project and this Agreement remains effective with respect to the transferee;

d. If:

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- i. The TSP becomes voluntarily or involuntarily the subject of any bankruptcy or insolvency or winding up proceedings and such proceedings remain uncontested for a period of thirty (30) days; or
- ii. any winding up or bankruptcy or insolvency order is passed against the TSP; or
- iii. the TSP goes into liquidation or dissolution or a receiver or any similar officer is appointed over all or substantially all of its assets or official liquidator is appointed to manage its affairs, pursuant to Law,

Provided that a dissolution or liquidation of the TSP will not be a TSP's Event of Default, where such dissolution or liquidation of the TSP is for the purpose of a merger, consolidation or reorganization with the prior approval of the Commission as per the provisions of Central Electricity Regulatory Commission (Procedure, terms and Conditions for grant of Transmission License and other related matters) Regulations, 2006 or as amended from time to time; or

- e. Failure on the part of the TSP to comply with the provisions of Article 19.1 of this Agreement; or
- f. the TSP repudiates this Agreement and does not rectify such breach even within a period of thirty (30) days from a notice from the Nodal Agency in this regard; or
- g. after Commercial Operation Date of the Project, the TSP fails to achieve monthly Target Availability of 98%, for a period of six (6) consecutive months or within a non-consecutive period of six (6) months within any continuous aggregate period of eighteen(18) months except where the Availability is affected by Force Majeure Events as per Article 11; or
- h. any of the representations and warranties made by the TSP in Article 17 of this Agreement being found to be untrue or inaccurate. Further, in addition to the above, any of the undertakings submitted by the Selected Bidder at the time of submission of the Bid being found to be breached or inaccurate, including but not limited to the undertakings from its Parent Company / Affiliates related to the minimum equity obligation; or



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- i. the TSP fails to complete / fulfil all the activities / conditions within the specified period as per Article 3; or
- j. except for the reasons solely attributable to Nodal Agency, the TSP is in material breach of any of its obligations under this Agreement and such material breach is not rectified by the TSP within thirty (30) days of receipt of notice in this regard from the Nodal Agency; or
- k. the TSP fails to take the possession of the land required for location specific substations, switching stations or HVDC terminal or inverter stations and / or fails to pay the requisite price to the parties and / or any State Government authority from whom the land is acquired, within twelve (12) months from the Effective Date.

**13.2 Termination Procedure for TSP Event of Default**

- a. Upon the occurrence and continuance of any TSP's Event of Default under Article 13.1 the Nodal Agency may serve notice on the TSP, with a copy to the CEA and the Lenders' Representative, of their intention to terminate this Agreement (a "Nodal Agency's Preliminary Termination Notice"), which shall specify in reasonable detail, the circumstances giving rise to such Nodal Agency's Preliminary Termination Notice.
- b. Following the issue of a Nodal Agency's Preliminary Termination Notice, the Consultation Period shall apply and would be for the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant Event of Default having regard to all the circumstances.
- c. During the Consultation Period, the Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations/ roles under this Agreement, and the TSP shall not remove any material, equipment or any part of the Project, without prior consent of the Nodal Agency.

Following the expiry of the Consultation Period, unless the Parties shall have otherwise agreed to the contrary or the circumstances giving rise to Nodal Agency's Preliminary Termination Notice shall have ceased to exist or shall have been remedied, this Agreement may be terminated by the Nodal Agency by giving a Termination Notice to the TSP, in writing, of at least seven (7) days, with a copy to CEA and the Lenders' Representative in order to enable the Lenders to exercise right of substitution in accordance with Article 15.3 of this Agreement.



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Further, the Nodal Agency may also initiate proceedings to blacklist the TSP & its Affiliates from participation in any RFP issued by BPCs for a period of 5 years.

### 13.3 Procedure for Nodal Agency's non-fulfilment of Role

- a. Upon the Nodal Agency not being able to fulfil its role under Article 4.2, the TSP may serve notice on the Nodal Agency, with a copy to CEA and the Lenders' Representative (a "TSP's Preliminary Notice"), which notice shall specify in reasonable detail the circumstances giving rise to such non-fulfilment of role by the Nodal Agency.
- b. Following the issue of a TSP's Preliminary Notice, the Consultation Period shall apply.
- c. The Consultation Period would be for the Parties to discuss as to what steps shall be taken with a view to mitigate the consequences of the relevant non-fulfilment of role by the Nodal Agency including giving time extension to TSP, having regard to all the circumstances.
- d. During the Consultation Period, both Parties shall, save as otherwise provided in this Agreement, continue to perform their respective obligations/ roles under this Agreement.

### 13.4 Termination due to Force Majeure

- 13.4.1 In case the Parties could not reach an agreement pursuant to Articles 3.3.4 and 4.4.2 of this Agreement and the Force Majeure Event or its effects continue to be present, the Nodal Agency shall have the right to cause termination of the Agreement. In case of such termination, the Contract Performance Guarantee shall be returned to the TSP as per the provisions of Article 6.5.1.
- 13.4.2 In case of termination of this Agreement, the TSP shall provide to the Nodal Agency the full names and addresses of its Contractors as well as complete designs, design drawings, manufacturing drawings, material specifications and



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technical information, as required by the Nodal Agency within thirty (30) days of Termination Notice.

### **13.5 Termination or amendment due to non-requirement of any Element or Project during construction**

13.5.1 In case any Element or Project, which is under construction, is no longer required due to any reason whatsoever, the Nodal Agency may issue a notice to this effect to the TSP.

13.5.2 Nodal agency may also issue notice to the TSP seeking their response to the proposed termination/ amendment (as the case may be) of the Agreement. The Nodal Agency shall issue copy of such notice to Lenders. In the notice, Nodal Agency shall also include an assessment of the physical progress made by TSP in the Element/ Project (as the case may be) that is no longer required.

13.5.3 The TSP shall neither carry out further investment nor carry out any work on the Element/ Project (as the case may be) that is no longer required after delivery of the notice.

13.5.4 After taking into account the comments of the TSP, the Nodal Agency may terminate the Agreement or amend it if both Parties agree to the amendment.

### **13.6 Revocation of the Transmission License**

13.6.1 The Commission may, as per the provisions of the Electricity Act, 2003, revoke the Transmission License of the ISTS Licensee. Further, in such a case, the Agreement shall be deemed to have been terminated.

### **13.7 Termination Payment**

13.7.1 If Agreement is terminated on account of Force Majeure Events, non-requirement of any Element or Project during Construction, Nodal Agency's non-fulfilment of Role & TSP's Event of Default, the TSP shall be entitled for Termination Payment equivalent to valuation of Project Assets. Upon payment, the Nodal Agency shall take over the Project Assets.

**ARTICLE: 14****14 Liability and Indemnification****14.1 Indemnity**

14.1.1 The TSP shall indemnify, defend and hold the Nodal Agency harmless against:

- (a) any and all third party claims, actions, suits or proceedings against the Nodal Agency for any loss of or damage to property of such third party, or death or injury to such third party, arising out of a breach by the TSP of any of its obligations under this Agreement, except to the extent that any such claim, action, suit or proceeding has arisen due to a negligent act or omission, breach of this Agreement or non-fulfilment of statutory duty on the part of Nodal Agency; and
- (b) any and all losses, damages, costs and expenses including legal costs, fines, penalties and interest actually suffered or incurred by the Nodal Agency from third party claims arising by reason of:
  - i. a breach by the TSP of any of its obligations under this Agreement, (provided that this Article 14 shall not apply to such breaches by the TSP, for which specific remedies have been provided for under this Agreement) except to the extent that any such losses, damages, costs and expenses including legal costs, fines, penalties and interest (together to constitute "Indemnifiable Losses") has arisen due to a negligent act or omission, breach of this Agreement or non-fulfilment of statutory duty on the part of the Nodal Agency, or
  - ii. any of the representations and warranties of the TSP under this Agreement being found to be inaccurate or untrue.

14.1.2 The Nodal Agency shall, in accordance with the Regulations framed by CERC in this regard, indemnify, defend and hold the TSP harmless against:

- (a) any and all third party claims, actions, suits or proceedings against the TSP, for any loss of or damage to property of such third party, or death or injury to such third party, arising out of any material breach by the Nodal Agency of any of their roles under this Agreement, except to the extent that any such claim, action, suit or proceeding has arisen due to a negligent act or omission, breach of this Agreement or breach of statutory duty on the part of the TSP, its Contractors, servants or agents; and



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- (b) any and all losses, damages, costs and expenses including legal costs, fines, penalties and interest ('Indemnifiable Losses') actually suffered or incurred by the TSP from third party claims arising by reason of:
- i. any material breach by the Nodal Agency of any of its roles under this Agreement (provided that, this Article 14 shall not apply to such breaches by the Nodal Agency, for which specific remedies have been provided for under this Agreement), except to the extent that any such Indemnifiable Losses have arisen due to a negligent act or omission, breach of this Agreement or breach of statutory duty on the part of the TSP, its Contractors, servants or agents or
  - ii. any of the representations and warranties of the Nodal Agency under this Agreement being found to be inaccurate or untrue.

**14.2 Patent Indemnity:****14.2.1**

- (a) The TSP shall, subject to the Nodal Agency's compliance with Article 14.2.1 (b), indemnify and hold harmless the Nodal Agency and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Nodal Agency may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Agreement by reason of the setting up of the Project by the TSP.

Such indemnity shall not cover any use of the Project or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Agreement, any infringement resulting from the misuse of the Project or any part thereof, or any products produced in association or combination with any other equipment, plant or materials not supplied by the TSP, pursuant to the Agreement.

- (b) If any proceedings are brought or any claim is made against the Nodal Agency arising out of the matters referred to in Article 14.2.1(a), the Nodal Agency shall promptly give the TSP a notice thereof, and the TSP shall at its own expense take necessary steps and attend such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.



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The TSP shall promptly notify the Nodal Agency of all actions taken in such proceedings or claims.

- (c) If the TSP fails to notify the Nodal Agency within twenty-eight (28) days after receipt of such notice from the Nodal Agency under Article 14.2.1(b) above, that it intends to attend any such proceedings or claim, then the Nodal Agency shall be free to attend the same on their own behalf at the cost of the TSP. Unless the TSP has so failed to notify the Nodal Agency within the twenty eight (28) days period, the Nodal Agency shall make no admission that may be prejudicial to the defence of any such proceedings or claims.
- (d) The Nodal Agency shall, at the TSP's request, afford all available assistance to the TSP in attending to such proceedings or claim, and shall be reimbursed by the TSP for all reasonable expenses incurred in so doing.

## 14.2.2

- (a) The Nodal Agency, in accordance with the Regulations framed by CERC in this regard, subject to the TSP's compliance with Article 14.2.2(b) shall indemnify and hold harmless the TSP and its employees, officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs and expenses of whatsoever nature, including attorney's fees and expenses, which the TSP may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Agreement by reason of the setting up of the Project by the TSP.
- (b) If any proceedings are brought or any claim is made against the TSP arising out of the matters referred to in Article 14.2.2 (a) the TSP shall promptly give the Nodal Agency a notice thereof, and the Nodal Agency shall at its own expense take necessary steps and attend such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. The Nodal Agency shall promptly notify the TSP of all actions taken in such proceedings or claims.
- (c) If the Nodal Agency fails to notify the TSP within twenty-eight (28) days after receipt of such notice from the TSP under Article 14.2.2(b) above, that it intends to attend any such proceedings or claim, then the TSP shall be free to attend the same on its own behalf at the cost of the Nodal Agency. Unless the Nodal Agency has so failed to notify the TSP within the twenty (28)



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days period, the TSP shall make no admission that may be prejudicial to the defence of any such proceedings or claim.

- (d) The TSP shall, at the Nodal Agency request, afford all available assistance to the Nodal Agency in attending to such proceedings or claim, and shall be reimbursed by the Nodal Agency for all reasonable expenses incurred in so doing.

### 14.3 Monetary Limitation of liability

- 14.3.1 A Party ("Indemnifying Party") shall be liable to indemnify the other Party ("Indemnified Party") under this Article 14 for any indemnity claims made in a Contract Year only up to an amount of Rupees One Crore Forty-Seven Lakh only (Rs. 1.47 Crore).

### 14.4 Procedure for claiming indemnity

- 14.4.1 Where the Indemnified Party is entitled to indemnification from the Indemnifying Party pursuant to Articles 14.1 or 14.2 the Indemnified Party shall promptly notify the Indemnifying Party of such claim, proceeding, action or suit referred to in Articles 14.1 or 14.2 in respect of which it is entitled to be indemnified. Such notice shall be given as soon as reasonably practicable after the Indemnified Party becomes aware of such claim, proceeding, action or suit. The Indemnifying Party shall be liable to settle the indemnification claim within thirty (30) days of receipt of the above notice.

Provided however that, if:

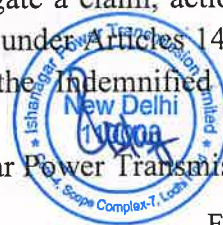
- i. the Parties choose to contest, defend or litigate such claim, action, suit or proceedings in accordance with Article 14.4.3 below; and
- ii. the claim amount is not required to be paid/deposited to such third party pending the resolution of the Dispute,

the Indemnifying Party shall become liable to pay the claim amount to the Indemnified Party or to the third party, as the case may be, promptly following the resolution of the Dispute, if such Dispute is not settled in favour of the Indemnified Party.

- 14.4.2 The Indemnified Party may contest, defend and litigate a claim, action, suit or proceeding for which it is entitled to be indemnified under Articles 14.1 or 14.2 and the Indemnifying Party shall reimburse to the Indemnified Party all



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reasonable costs and expenses incurred by the Indemnified Party. However, such Indemnified Party shall not settle or compromise such claim, action, suit or proceedings without first getting the consent of the Indemnifying Party, which consent shall not be unreasonably withheld or delayed.

- 14.4.3 An Indemnifying Party may, at its own expense, assume control of the defence of any proceedings brought against the Indemnified Party if it acknowledges its obligation to indemnify such Indemnified Party, gives such Indemnified Party prompt notice of its intention to assume control of the defence, and employs an independent legal counsel at its own cost that is reasonably satisfactory to the Indemnified Party.

#### 14.5 Limitation on Liability

- 14.5.1 Except as expressly provided in this Agreement, neither the TSP nor the Nodal Agency nor their respective officers, directors, agents, employees or Affiliates (including, officers, directors, agents or employees of such Affiliates), shall be liable or responsible to the other Party or its Affiliates including its officers, directors, agents, employees, successors, insurers or permitted assigns for incidental, indirect or consequential, punitive or exemplary damages, connected with or resulting from performance or non-performance of this Agreement, or anything done in connection herewith, including claims in the nature of lost revenues, income or profits (other than payments expressly required and properly due under this Agreement), any increased expense of, reduction in or loss of transmission capacity or equipment used therefore, irrespective of whether such claims are based upon breach of warranty, tort (including negligence, whether of the Nodal Agency, the TSP or others), strict liability, contract, breach of statutory duty, operation of law or otherwise.

- 14.5.2 The Nodal Agency shall have no recourse against any officer, director or shareholder of the TSP or any Affiliate of the TSP or any of its officers, directors or shareholders for such claims excluded under this Article. The TSP shall also have no recourse against any officer, director or shareholder of the Nodal Agency, or any Affiliate of the Nodal Agency or any of its officers, directors or shareholders for such claims excluded under this Article.

#### 14.6 Duty to Mitigate

The party entitled to the benefit of an indemnity under this Article 14 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the Party fails to take such measures, the other Party's liabilities shall be correspondingly reduced.

**ARTICLE: 15****15 Assignments and Charges****15.1 Assignments:**

- 15.1.1 This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns. This Agreement shall not be assigned by any Party, except as provided in Article 15.3.

**15.2 Permitted Charges:**

- 15.2.1 Neither Party shall create or permit to subsist any encumbrance over all or any of its rights and benefits under this Agreement.
- 15.2.2 However, the TSP may create any encumbrance over all or part of the receivables, or the Project Assets of the Project in favour of the Lenders or the Lenders' Representative on their behalf, as security for amounts payable under the Financing Agreements and any other amounts agreed by the Parties.

Provided that:

- i. the Lenders or the Lenders' Representative on their behalf shall have entered into the Financing Agreements and agreed in writing to the provisions of this Agreement; and
- ii. any encumbrance granted by the TSP in accordance with this Article 15.2.2 shall contain provisions pursuant to which the Lenders or the Lender's Representative on their behalf agrees unconditionally with the TSP to release from such encumbrances upon payment by the TSP to the Lenders of all amounts due under the Financing Agreements.

**15.2.3 Article 15.2.1 does not apply to:**

- a. liens arising by operation of law (or by an agreement evidencing the same) in the ordinary course of the TSP developing and operating the Project;
- b. pledges of goods, the related documents of title and / or other related documents, arising or created in the ordinary course of the TSP developing and operating the Project; or
- c. security arising out of retention of title provisions in relation to goods acquired in the ordinary course of the TSP developing and operating the Project.



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**15.3 Substitution Rights of the Lenders**

- 15.3.1 The TSP would need to operate and maintain the Project under the provisions of this Agreement and cannot assign the Transmission License or transfer the Project or part thereof to any person by sale, lease, exchange or otherwise, without the prior approval of the Nodal Agency.
- 15.3.2 However, in the case of default by the TSP in debt repayments or in the case of default by the TSP as per Article 13 of this Agreement during the debt repayments, the Commission may, on an application from the Lenders, assign the Transmission License to the nominee of the Lenders subject to the fulfilment of the qualification requirements and provisions of the Central Electricity Regulatory Commission (Procedure, terms and Conditions for grant of Transmission License and other related matters) Regulations, 2006 and as amended from time to time.



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**ARTICLE: 16****16 Governing Law and Dispute Resolution****16.1 Governing Law:**

This Agreement shall be governed by and construed in accordance with the Laws of India. Any legal proceedings in respect of any matters, claims or disputes under this Agreement shall be under the jurisdiction of appropriate courts in Delhi.

**16.2 Amicable Settlement:**

**16.2.1** Either Party is entitled to raise any claim, dispute or difference of whatever nature arising under, out of or in connection with this Agreement, including its existence or validity or termination or whether during the execution of the Project or after its completion and whether prior to or after the abandonment of the Project or termination or breach of the Agreement by giving a written notice to the other Party, which shall contain:

- (i) a description of the Dispute;
- (ii) the grounds for such Dispute; and
- (iii) all written material in support of its claim.

**16.2.2** The other Party shall, within thirty (30) days of issue of notice issued under Article 16.2.1, furnish:

- (i) counter-claim and defences, if any, regarding the Dispute; and
- (ii) all written material in support of its defences and counter-claim.

**16.2.3** Within thirty (30) days of issue of notice by the Party pursuant to Article 16.2.1, if the other Party does not furnish any counter claim or defense under Article 16.2.2, or thirty (30) days from the date of furnishing counter claims or defence by the other Party, both the Parties to the Dispute shall meet to settle such Dispute amicably. If the Parties fail to resolve the Dispute amicably within thirty (30) days from the later of the dates mentioned in this Article 16.2.3, the Dispute shall be referred for dispute resolution in accordance with Article 16.3.

**16.3 Dispute Resolution:**

All Disputes shall be adjudicated by the Commission.



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**16.4 Parties to Perform Obligations:**

Notwithstanding the existence of any Dispute and difference referred to the Commission as provided in Article 16.3 and save as the Commission may otherwise direct by a final or interim order, the Parties hereto shall continue to perform their respective obligations/ roles (which are not in dispute) under this Agreement.



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**ARTICLE: 17****17 Representation and Warranties****17.1 Representation and warranties of the Nodal Agency**

17.1.1 The Nodal Agency hereby represents and warrants to and agrees with the TSP as follows and acknowledges and confirms that the TSP is relying on such representations and warranties in connection with the transactions described in this Agreement:

- a. It has all requisite powers and authority to execute and consummate this Agreement;
- b. This Agreement is enforceable against the Nodal Agency in accordance with its terms;
- c. The consummation of the transactions contemplated by this Agreement on the part of Nodal Agency will not violate any provision of nor constitute a default under, nor give rise to a power to cancel any charter, mortgage, deed of trust or lien, lease, agreement, license, permit, evidence of indebtedness, restriction, or other contract to which the Nodal Agency is a Party or to which the Nodal Agency is bound, which violation, default or power has not been waived;

**17.2 Representation and Warranties of the TSP:**

17.2.1 The TSP hereby represents and warrants to and agrees with the Nodal Agency as follows and acknowledges and confirms that the Nodal Agency is relying on such representations and warranties in connection with the transactions described in this Agreement:

- a. It has all requisite powers and has been duly authorized to execute and consummate this Agreement;
- b. This Agreement is enforceable against it, in accordance with its terms;
- c. The consummation of the transactions contemplated by this Agreement on the part of the TSP will not violate any provision of nor constitute a default under, nor give rise to a power to cancel any charter, mortgage, deed of trust or lien, lease, agreement, license, permit, evidence of indebtedness, restriction, or other contract to which the TSP is a Party or to which the TSP is bound which violation, default or power has not been waived;
- d. The TSP is not insolvent and no insolvency proceedings have been instituted, nor threatened or pending by or against the TSP;



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- e. There are no actions, suits, claims, proceedings or investigations pending or, to the best of the TSP's knowledge, threatened in writing against the TSP at law, in equity, or otherwise, and whether civil or criminal in nature, before or by, any court, commission, arbitrator or governmental agency or authority, and there are no outstanding judgments, decrees or orders of any such courts, commission, arbitrator or governmental agencies or authorities, which materially adversely affect its ability to execute the Project or to comply with its obligations under this Agreement.

17.2.2 The TSP makes all the representations and warranties above to be valid as on the Effective Date of this Agreement.



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**ARTICLE: 18****18 Independent Engineer****18.1 Appointment of Independent Engineer**

The Nodal Agency shall appoint an agency/ company as Independent Engineer as per framework provided in the Guidelines for Encouraging Competition in Development of Transmission Projects for selection of Independent Engineer.

**18.2 Roles and functions of Independent Engineer**

The role and functions of the Independent Engineer shall include the following:

- a. Progress Monitoring as required under this Agreement;
- b. Ensuring Quality as required under this Agreement;
- c. determining, as required under the Agreement, the costs of any works or services and/or their reasonableness during construction phase;
- d. determining, as required under the Agreement, the period or any extension thereof, for performing any duty or obligation during construction phase;
- e. determining, as required under the Agreement, the valuation of the Project Assets.
- f. Assisting the Parties in resolution of Disputes and
- g. Undertaking all other duties and functions in accordance with the Agreement.

**18.3 Remuneration of Independent Engineer**

The fee and charges of the Independent Engineer shall be paid by the Nodal Agency as per terms & conditions of appointment.

**18.4 Termination of appointment**

18.4.1 The Nodal Agency may, in its discretion, terminate the appointment of the Independent Engineer at any time, but only after appointment of another Independent Engineer.

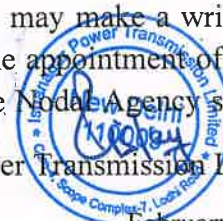
18.4.2 If the TSP has reason to believe that the Independent Engineer is not discharging its duties and functions in a fair, efficient and diligent manner, it may make a written representation to the Nodal Agency and seek termination of the appointment of the Independent Engineer. Upon receipt of such representation, the Nodal Agency shall



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hold a tripartite meeting with the TSP and Independent Engineer for an amicable resolution, and the decision of Nodal agency is final. In the event that the appointment of the Independent Engineer is terminated hereunder, the Nodal Agency shall appoint forthwith another Independent Engineer.

**18.5 Authorised signatories**

The Nodal Agency shall require the Independent Engineer to designate and notify to the Nodal Agency up to 2 (two) persons employed in its firm to sign for and on behalf of the Independent Engineer, and any communication or document required to be signed by the Independent Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Independent Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.



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**ARTICLE: 19****19 Miscellaneous Provisions****19.1 Equity Lock-in Commitment:**

**19.1.1** The aggregate equity share holding of the Selected Bidder in the issued and paid up equity share capital of Ishanagar Power Transmission Limited shall not be less than Fifty one percent (51%) up to a period of one (1) year after COD of the Project.

Provided that, in case the Lead Member or Bidding Company is holding equity through Affiliate/s, Ultimate Parent Company or Parent Company, such restriction as specified above shall apply to such entities.

Provided further, that in case the Selected Bidder is a Bidding Consortium, the Lead Member shall continue to hold equity of at least twenty six percent (26%) upto a period of one (1) year after COD of the Project and any Member of such Bidding Consortium shall be allowed to divest its equity as long as the other remaining Members (which shall always include the Lead Member) hold the minimum equity specified above.

**19.1.2** If equity is held by the Affiliates, Parent Company or Ultimate Parent Company of the Selected Bidder, then, subject to the second proviso to Article 19.1.1, such Affiliate, Parent Company or Ultimate Parent Company shall be eligible to transfer its shareholding in Ishanagar Power Transmission Limited to another Affiliate or to the Parent Company / Ultimate Parent Company of the Selected Bidder. If any such shareholding entity, qualifying as an Affiliate / Parent Company / Ultimate Parent Company, is likely to cease to meet the criteria to qualify as an Affiliate / Parent Company / Ultimate Parent Company, the shares held by such entity shall be transferred to another Affiliate / Parent Company / Ultimate Parent Company of the Selected Bidder.

**19.1.3** Subject to Article 19.1.1, all transfer(s) of shareholding of Ishanagar Power Transmission Limited by any of the entities referred to in Article 19.1.1 and 19.1.2 above, shall be after prior written intimation to the Nodal Agency.

**19.1.4** For computation of effective Equity holding, the Equity holding of the Selected Bidder or its Ultimate Parent Company in such Affiliate(s) or Parent Company and the equity holding of such Affiliate(s) or Ultimate Parent Company in Ishanagar Power Transmission Limited shall be computed in accordance with the example given below:

If the Parent Company or the Ultimate Parent Company of the Selected Bidder A



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directly holds thirty percent (30%) of the equity in Ishanagar Power Transmission Limited then holding of Selected Bidder A in Ishanagar Power Transmission Limited shall be thirty percent (30%);

If Selected Bidder A holds thirty percent (30%) equity of the Affiliate and the Affiliate holds fifty percent (50%) equity in Ishanagar Power Transmission Limited, then, for the purposes of ascertaining the minimum equity/equity lock-in requirements specified above, the effective holding of Bidder A in Ishanagar Power Transmission Limited shall be fifteen percent (15%), (i.e., 30% x 50%)

- 19.1.5 The provisions as contained in this Article 19.1 shall override the terms of the consortium agreement submitted as part of the Bid.
- 19.1.6 The TSP shall be responsible to report to Nodal Agency, within thirty (30) days from the occurrence of any event that would result in any change in its equity holding structure from that which existed as on the date of signing of the Share Purchase Agreement. In such cases, the Nodal Agency would reserve the right to ascertain the equity holding structure and to call for all such required documents / information / clarifications as may be required.

## 19.2 Commitment of maintaining Qualification Requirement

- 19.2.1 The Selected Bidder will be required to continue to maintain compliance with the Qualification Requirements, as stipulated in RFP Document, till the COD of the Project. Where the Technically Evaluated Entity and/or the Financially Evaluated Entity is not the Bidding Company or a Member in a Bidding Consortium, as the case may be, the Bidding Company or Member shall continue to be an Affiliate of the Technically Evaluated Entity and/or Financially Evaluated Entity till the COD of the Project.
- 19.2.2 Failure to comply with the aforesaid provisions shall be dealt in the same manner as TSP's Event of Default as under Article 13 of this Agreement.

## 19.3 Language:

- 19.3.1 All agreements, correspondence and communications between the Parties relating to this Agreement and all other documentation to be prepared and supplied under the Agreement shall be written in English, and the Agreement shall be construed and interpreted in accordance with English language.
- 19.3.2 If any of the agreements, correspondence, communications or documents are prepared in any language other than English, the English translation of such agreements, correspondence, communications or documents shall prevail in matters of interpretation.

**19.4 Affirmation**

The TSP and the Nodal Agency, each affirm that:

1. neither it nor its respective directors, employees, or agents has paid or undertaken to pay or shall in the future pay any unlawful commission, bribe, pay-off or kick-back; and
2. it has not in any other manner paid any sums, whether in Indian currency or foreign currency and whether in India or abroad to the other Party to procure this Agreement, and the TSP and the Nodal Agency hereby undertake not to engage in any similar acts during the Term of Agreement.

**19.5 Severability**

The invalidity or enforceability, for any reason, of any part of this Agreement shall not prejudice or affect the validity or enforceability of the remainder of this Agreement, unless the part held invalid or unenforceable is fundamental to this Agreement.

**19.6 Counterparts**

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original and all of which collectively shall be deemed one and the same Agreement.

**19.7 Breach of Obligations/ Roles**

The Parties acknowledge that a breach of any of the obligations/ roles contained herein would result in injuries. The Parties further acknowledge that the amount of the liquidated damages or the method of calculating the liquidated damages specified in this Agreement is a genuine and reasonable pre-estimate of the damages that may be suffered by the non-defaulting Party in each case specified under this Agreement.

**19.8 Restriction of Shareholders / Owners Liability**

19.8.1 Parties expressly agree and acknowledge that none of the shareholders of the Parties hereto shall be liable to the other Parties for any of the contractual obligations of the concerned Party under this Agreement.

19.8.2 Further, the financial liabilities of the shareholder(s) of each Party to this Agreement shall be restricted to the extent provided in the Indian Companies Act, 1956 / Companies Act, 2013 (as the case may be).



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**19.9 Taxes and Duties:**

- 19.9.1 The TSP shall bear and promptly pay all statutory taxes, duties, levies and cess, assessed/levied on the TSP, its Contractors or their employees that are required to be paid by the TSP as per the Law in relation to the execution of the Project and for providing Transmission Service as per the terms of this Agreement.
- 19.9.2 The Nodal Agency shall be indemnified and held harmless by the TSP against any claims that may be made against the Nodal Agency in relation to the matters set out in Article 19.9.1.
- 19.9.3 The Nodal Agency shall not be liable for any payment of, taxes, duties, levies, cess whatsoever for discharging any obligation of the TSP by the Nodal Agency on behalf of TSP or its personnel, provided the TSP has consented in writing to the Nodal Agency for such work, for which consent shall not be unreasonably withheld.

**19.10 No Consequential or Indirect Losses**

The liability of the TSP shall be limited to that explicitly provided in this Agreement.

Provided that, notwithstanding anything contained in this Agreement, under no event shall the Nodal Agency or the TSP claim from one another any indirect or consequential losses or damages.

**19.11 Discretion:**

Except where this Agreement expressly requires a Party to act fairly or reasonably, a Party may exercise any discretion given to it under this Agreement in any way it deems fit.

**19.12 Confidentiality**

- 19.12.1 The Parties undertake to hold in confidence this Agreement and RFP Project Documents and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:

- (a) to their professional advisors;
- (b) to their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities; or
- (c) disclosures required under Law,



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without the prior written consent of the other Parties.

Provided that, the TSP agrees and acknowledges that the Nodal Agency, may, at any time, disclose the terms and conditions of the Agreement and the RFP Project Documents to any person, to the extent stipulated under the Law and the Competitive Bidding Guidelines.

### 19.13 Order of priority in application:

Save as provided in Article 2.5, in case of inconsistencies between the terms and conditions stipulated in Transmission License issued by the Commission to the TSP, agreement(s) executed between the Parties, applicable Law including rules and regulations framed thereunder, the order of priority as between them shall be the order in which they are placed below:

- terms and conditions of Transmission License;
- applicable Law, rules and regulations framed thereunder;
- this Agreement;
- Agreement(s), if any, under Sharing Regulations.

### 19.14 Independent Entity:

19.14.1 The TSP shall be an independent entity performing its obligations pursuant to the Agreement.

19.14.2 Subject to the provisions of the Agreement, the TSP shall be solely responsible for the manner in which its obligations under this Agreement are to be performed. All employees and representatives of the TSP or Contractors engaged by the TSP in connection with the performance of the Agreement shall be under the complete control of the TSP and shall not be deemed to be employees, representatives, Contractors of the Nodal Agency and nothing contained in the Agreement or in any agreement or contract awarded by the TSP shall be construed to create any contractual relationship between any such employees, representatives or Contractors and the Nodal Agency.

### 19.15 Amendments:

19.15.1 This Agreement may only be amended or supplemented by a written agreement between the Parties.



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**19.16 Waiver:**

- 19.16.1 No waiver by either Party of any default or breach by the other Party in the performance of any of the provisions of this Agreement shall be effective unless in writing duly executed by an authorised representative of such Party.
- 19.16.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement nor time or other indulgence granted by one Party to the other Parties shall act as a waiver of such breach or acceptance of any variation or the relinquishment of any such right or any other right under this Agreement, which shall remain in full force and effect.

**19.17 Relationship of the Parties:**

This Agreement shall not be interpreted or construed to create an association, joint venture, or partnership or agency or any such other relationship between the Parties or to impose any partnership obligation or liability upon either Party and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

**19.18 Entirety:**

- 19.18.1 This Agreement along with its sections, schedules and appendices is intended by the Parties as the final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement.
- 19.18.2 Except as provided in this Agreement, all prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement or the provision of Transmission Service under this Agreement to the Nodal Agency by the TSP shall stand superseded and abrogated.

**19.19 Notices:**

- 19.19.1 All notices or other communications which are required to be given under this Agreement shall be in writing and in the English language
- 19.19.2 If to the TSP, all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addressee below:



Address

Attention

: UNIT 101, WINDSOR, CST ROAD, VIDYANAGARI MARG,  
KALINA, SANTACRUZ (EAST), MUMBAI - 400098  
: MR. ADITYA KISLAY



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Email : ADITYA. KISLAY@INDIGRID.COM  
 Fax. No. :  
 Telephone No. : 9999312834

19.19.3 If to the Nodal Agency, all notices or communications must be delivered personally or by registered post or facsimile or any other mode duly acknowledged to the addresses below:

(i) Central Transmission Utility of India Limited

Address : Plot No.2, Sector – 29, Gurugram, Haryana-  
 122001, India  
 Attention : Mr. Atul Kumar Agarwal, CGM  
 Email : atul\_ag@powergrid.in  
 Fax. No. :  
 Telephone No. : 9910378059

19.19.4 All notices or communications given by facsimile shall be confirmed by sending a copy of the same via post office in an envelope properly addressed to the appropriate Party for delivery by registered mail. All notices shall be deemed validly delivered upon receipt evidenced by an acknowledgement of the recipient, unless the Party delivering the notice can prove in case of delivery through the registered post that the recipient refused to acknowledge the receipt of the notice despite efforts of the postal authorities.

19.19.5 Any Party may by notice of at least fifteen (15) days to the other Party change the address and/or addresses to which such notices and communications to it are to be delivered or mailed.

**19.20 Fraudulent and Corrupt Practices**

19.20.1 The TSP and its respective officers, employees, agents and advisers shall observe the highest standard of ethics during the subsistence of this Agreement. Notwithstanding anything to the contrary contained in the Agreement, the Nodal Agency may terminate the Agreement without being liable in any manner whatsoever to the TSP, if it determines that the TSP has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bid process. In such an event, the Nodal Agency shall forfeit the Contract Performance Guarantee of the TSP, without prejudice to any other right or remedy that may be available to the Nodal Agency hereunder or subsistence otherwise.



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19.20.2 Without prejudice to the rights of the Nodal Agency under Clause 19.20.1 hereinabove and the rights and remedies which the Nodal Agency may have under this Agreement, if a TSP is found by the Nodal Agency to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bid process, or after the issue of Letter of Intent (hereinafter referred to as LoI) or after the execution of the agreement(s) required under Sharing Regulations, the Nodal Agency may terminate the Agreement without being liable in any manner whatsoever to the TSP. Further, the TSP & its Affiliates shall not be eligible to participate in any tender or RFP issued by any BPC for an indefinite period from the date such TSP is found by the Nodal Agency to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

19.20.3 For the purposes of this Clause 19.20, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) **“corrupt practice”** means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bid process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the BPC who is or has been associated or dealt in any manner, directly or indirectly with the Bid process or the LoI or has dealt with matters concerning the RFP Project Documents or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the BPC, shall be deemed to constitute influencing the actions of a person connected with the Bid Process); or (ii) engaging in any manner whatsoever, whether during the Bid Process or after the issue of the LoI or after the execution of the RFP Project Documents, as the case may be, any person in respect of any matter relating to the Project or the LoI or the RFP Project Documents, who at any time has been or is a legal, financial or technical adviser of the BPC in relation to any matter concerning the Project;

(b) **“fraudulent practice”** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bid process;

(c) **“coercive practice”** means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bid process;



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(d) “**undesirable practice**” means (i) establishing contact with any person connected with or employed or engaged by the BPC with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bid process; or (ii) having a Conflict of Interest; and

(e) “**restrictive practice**” means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bid process;

**19.21 Compliance with Law:**

Despite anything contained in this Agreement but without prejudice to Article 12, if any provision of this Agreement shall be in deviation or inconsistent with or repugnant to the provisions contained in the Electricity Act, 2003, or any rules and regulations made there under, such provision shall be deemed to be amended to the extent required to bring it into compliance with the aforesaid relevant provisions as amended from time to time.



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IN WITNESS WHEREOF, THE PARTIES HAVE CAUSED THIS AGREEMENT TO BE EXECUTED BY THEIR DULY AUTHORISED REPRESENTATIVES AS OF THE DATE AND PLACE SET FORTH ABOVE.

1. For and on behalf of TSP



ADITYA KISLAY)

[Signature, Name, Designation and Address]

2. For and on behalf of CTUIL [Insert name of the Nodal Agency]

Kamal Kumar Jain

[Signature, Name, Designation and Address]

Kamal Kumar Jain  
Sr. GM, CTUIL.



## WITNESSES:

1. For and on behalf of  
: BPC

P. Rishi

[Signature]

Anil Kumar Perala, Chief Manager

RECPDL, Gurgaon

[Insert, Name, Designation and Address of the Witness]

2. For and on behalf of  
: Nodal Agency

DM

[Signature]

Deepak Kishan, Mgr. CTUIL

[Insert Name, Designation and Address of the Witness]



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# SCHEDULES



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## Transmission Service Agreement

## Schedule: 1

## Project Description and Scope of Project

## Scope of the Project:

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
1.	<p>Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV &amp; 1x125 MVA, 420 kV bus reactor</p> <ul style="list-style-type: none"> <li>➤ 765/400 kV, 1500 MVA ICT – 2 Nos.(7x500 MVA 1-phase units including one spare ICT unit)</li> <li>➤ 400/220 kV, 500 MVA ICT – 2 Nos.</li> <li>➤ 765 kV ICT bays – 2 Nos.</li> <li>➤ 400 kV ICT bays – 4 Nos.</li> <li>➤ 220 kV ICT bays – 2 Nos.</li> <li>➤ 765 kV Line bays – 2 Nos.</li> <li>➤ 330 MVA, 765 kV Bus Reactor – 1 No. (4x 110 MVA including one spare unit)</li> <li>➤ 125 MVA, 420 kV Bus reactor – 1 No.</li> <li>➤ 765 kV Bus reactor bay: 1 No.</li> <li>➤ 400 kV Bus reactor bay: 1 No.</li> <li>➤ 220 kV Bus coupler bay- 1 No.</li> <li>➤ 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</li> <li>➤ 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</li> </ul> <p>Future provisions:</p> <p>Space for</p>	24 months

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Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
	<ul style="list-style-type: none"> <li>➤ 765/400 kV ICT along with bays- 4 Nos.</li> <li>➤ 765 kV line bays along with switchable line reactors – 8 Nos.</li> <li>➤ 765 kV Bus Reactor along with bay: 3 Nos.</li> <li>➤ 765 kV Sectionalizer: 1 set</li> <li>➤ 400 kV line bays along with switchable line reactor – 10 Nos.</li> <li>➤ 400/220 kV ICT along with bays -7 Nos.</li> <li>➤ 400 kV Bus Reactor along with bays: 3 Nos.</li> <li>➤ 400 kV Sectionalization bay: 1- set</li> <li>➤ 220 kV line bays: 12 Nos.</li> <li>➤ 220 kV Sectionalization bay: 2 sets</li> <li>➤ 220 kV BC and TBC: 2 Nos</li> </ul>	
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	

#220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line and LILO of Chhatarpur – Tikamgarh 220 kV 2xS/c line at 765/400/220 kV Ishanagar (Chhatarpur –Tikamgarh 220 kV 2nd ckt is currently under implementation)

**Under Intra-State (by MPPTCL):**

- Establishment of 220/132 kV, 2x200 MVA ICT & 132/33 kV 2x50 MVA ICT at Jatara 220 kV S/s
- 220 kV Ishanagar 765/400/220 kV - Jatara 220 kV D/C line
- 2nd circuit stringing of Chhatarpur – Tikamgarh 220 kV DCSS line
- LILO of both circuit of Chhatarpur – Tikamgarh 220 kV DCDS line at 765/400/220 kV Ishanagar
- 132 kV Jatara 220 kV - Jatara 132 kV D/C line (With High Capacity Conductor)
- 132 kV Jatara 220 kV - Nowgaon 132 kV D/C line
- 2nd circuit stringing of Jatara 132 kV - Prithvipur DCSS line
- 2nd circuit stringing of Jatara 132 kV - Tikamgarh DCSS line

**Note:**

(i) Implementation timeframe: 24 months from date of SPV transfer.

(ii) MPPTCL shall execute downstream network in matching time-frame of ISTS system.



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**Project Description**

The scheme has been primarily conceived to cater to the loads in Chhatarpur, Tikamgarh & Jatara areas along with other Bulk Consumer loads envisaged in the area in future. Accordingly, joint studies were carried out and a new Substation at Ishanagar has been proposed. Further, NTPC is in the process of establishing a 630 MW solar project in Barethi area and it has been intimated that it would not be possible for NTPC to construct dedicated transmission line upto the nearest Chhatarpur PS in Bijawar area (planned for connectivity of 950MW RUMS SP), on account of the transmission line passing through Panna Tiger Reserve. In view of all of above, a new substation near Ishanagar was planned whereby MPPTCL would also be able to draw power through downstream system to cater to the electricity demand of Chhatarpur, Tikamgarh & Jatara areas along with Bulk Consumer loads and NTPC would as well be able to interconnect their 630MW Barethi SP with the planned Ishanagar Substation (located at distance of ~30-40 km).

The proposed scheme WRES-XXXIII: Part C includes establishment of 765/400 kV, 2x1500 MVA ICTs and 400/220 kV, 2x500 MVA ICTs at Ishanagar (New) with LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New) and the associated 220kV downstream system shall be implemented by MPPTCL.

The subject transmission system was deliberated and approved in the 11th NCT meeting held on 28.12.2022 and 17.01.2023. Ministry of Power vide Gazette notification 1644 dated 13.04.2023 has appointed REC Power Development and Consultancy Limited as BPC for implementation of the subject transmission scheme through TBCB route.



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**SPECIFIC TECHNICAL REQUIREMENTS FOR TRANSMISSION LINE**

- A.1.0 The design, routing and construction of transmission lines shall be in accordance with Chapter V, Part A of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.
- A.2.0 Selection of tower type shall be made as per CEA Regulations, however in case lattice type towers are used, the following shall also be applicable:
- A.2.1 Steel section of grade E 250 and/or grade E 350 as per IS 2062, only are permitted for use in towers, extensions, gantry structures and stub setting templates. For towers in snowbound areas, steel sections shall conform to Grade-C of IS-2062.
- A.2.2 Towers shall be designed as per IS-802:2015, however the drag coefficient of the tower shall be as follows: -

Solidity Ratio	Drag Coefficient
Upto 0.05	3.6
0.1	3.4
0.2	2.9
0.3	2.5
0.4	2.2
0.5 and above	2.0

- A.3.0 Transmission Service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.
- A.4.0 Transmission line shall be designed considering wind zones as specified in wind map given in National Building Code 2016, Vol.1. The developer shall also make his own assessment of local wind conditions and frequent occurrences of high intensity winds (HIW) due to thunderstorms, dust-storms, downburst etc. along the line route and wherever required, higher wind zone than that given in wind map shall be considered for tower design for ensuring reliability of line. Further, for transmission line sections passing within a distance of 50 km from the boundary of two wind zones, higher of the two wind zones shall be considered for design of towers located in such sections.
- A.5.0 Selection of reliability level for design of tower shall be as per CEA Regulation (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022, as amended from time to time.



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- A.6.0 A) For power line crossing of 400kV or above voltage level (if crossed over the existing line), large angle & dead end towers (i.e. D/DD/QD) shall be used on either side of power line crossing.
- B) For power line crossing of 132kV and 220kV (or 230kV) voltage level, angle towers (B/C/D/DB/DC/DD/QB/QC/QD) shall be used on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- C) For power line crossing of 66kV and below voltage level, suspension/tension towers shall be provided on either side of power line crossing depending upon the merit of the prevailing site condition and line deviation requirement.
- D) For crossing of railway tracks, national highways and state highways, the Rules/Regulations of appropriate authorities shall be followed.

A.7.0 The relevant conductor configuration shall be as follows: -

Transmission line	ACSR Conductor specified	Equivalent AAAC conductor based on 53.5% conductivity of Al Alloy	Equivalent minimum size of AL59 conductor based on 59% conductivity of AL Alloy*	Sub-conductor Spacing
765kV D/C (Hexa Zebra) transmission lines	Zebra : Stranding 54/3.18 mm-Al + 7/3.18 mm-Steel, 428 sq mm, Aluminium area, 28.62 mm diameter  Maximum DC Resistance at 20°C ( $\Omega/\text{km}$ ): 0.06868	Stranding details: 61/3.19mm, 28.71 mm diameter; 487.5 sq.mm Aluminium alloy area  Maximum DC Resistance at 20°C ( $\Omega/\text{km}$ ): 0.06815	Stranding details: 61/3.08mm, 27.72 mm diameter; 454 sq.mm Aluminium alloy area  Maximum DC Resistance at	457 mm

## Transmission Service Agreement

	Minimum UTS: 130.32 kN	Minimum UTS: 135.6 kN	20°C (Ω/km): 0.0653  Minimum UTS: 108 kN	
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Note:

\*1. To select any size above the minimum, the sizes mentioned in the relevant Indian standard i.e IS-398(part-6) shall be followed.

2. The transmission lines shall have to be designed for a maximum operating conductor temperature of 85 deg C.

A.8.0 The required phase to phase spacing and horizontal spacing for 765kV line shall be governed by the tower design as well as minimum live metal clearances for 765kV voltage level under different insulator swing angles. However, the phase to phase spacing for 765kV line shall not be less than 15 m.

A.9.0 Electrical clearances including minimum live metal clearance, ground clearance and minimum mid span separation between earth wire and conductor as given below shall be considered:

a) Minimum live metal clearances for 765 kV line:

(i) Under stationary conditions

From tower body: For 765 kV D/C: 6.1 m

For 765 kV S/C: 5.6 m

(ii) Under swing conditions

Wind pressure Condition	Minimum electrical clearance
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a) Swing angle (25°)	4.4 m
b) Swing angle (55°)	1.3 m

b) Minimum ground clearance: 18 m

c) Minimum mid span separation between earthwire and conductor: 9.0 m

A.10.0 Shielding angle shall not exceed 10 deg for 765kV D/C Line transmission line.

A.11.0 The Fault current for design of line shall be 50kA for 1 sec for 765kV.

A.12.0 In case of 765kV voltage class lines, at least one out of two earth wires shall be OPGW and second earth wire, if not OPGW, shall be either of galvanized standard steel (GSS) or AACSR or any other suitable conductor type depending upon span length and other technical consideration.

A.13.0 Each tower shall be earthed such that tower footing impedance does not exceed 10 ohm. Pipe type or Counterpoise type earthing shall be provided in accordance with relevant IS. Additional earthing shall be provided on every 7 to 8 km distance for direct earthing of both shield wires. If site condition demands, multiple earthing or use of earthing enhancement compound shall be used.

A.14.0 Pile type foundation shall be used for towers located in river or creek bed or on bank of river having scourable strata or in areas where river flow or change in river course is anticipated, based on detailed soil investigation and previous years' maximum flood discharge of the river, maximum velocity of water, highest flood level, scour depth & anticipated change in course of river based on river morphology data of at least past 20 years to ensure availability and reliability of the transmission line.

A.15.0 Transmission line route shall be finalized, in consultation with appropriate authorities so as to avoid the habitat zones of endangered species and other protected species. Bird diverters, wherever required, shall be provided on the line.

A.16.0 Wherever, transmission lines are passing through cyclone prone areas i.e. areas upto 60 km from coast following shall also be applicable:

a) Terrain category-I, with terrain roughness factor (K2) of 1.08 shall be considered for tower design for exposed open terrain with few or no obstruction which also includes open sea coasts, open stretch of water, desert and flat treeless plains

b) Importance factor for cyclonic region (K4) of 1.3 shall be considered for tower design.

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- c) The number of consecutive spans between the section points/ angle point shall not exceed 10 spans or 3 km instead of conventional practice of 15 spans or 5 km, in order to reduce the failure of such towers in coastal areas due to cascading effect. The section shall be terminated with tension tower/ angle tower and angle of deviation should be based on the site requirement.

A.17.0 Wherever, transmission lines are passing through cyclone prone areas (i.e. areas upto 60 km from coast)/ creek regions/ aggressive soil areas following shall also be applicable:

- a) The fabricated tower parts and stubs shall have a minimum overall zinc coating of 900 g/m<sup>2</sup> of surface area except for plates and sections below 5 mm which shall have a minimum overall zinc coating of 610 g/m<sup>2</sup> of surface area. The average zinc coating for all sections and plates 5 mm and above shall be maintained as 127 microns and that for plates and sections below 5 mm shall be maintained as 87 microns.
- b) Ready mix concrete of M30 Grade shall be used to avoid use of locally available saline water. However, design mix concrete of M30 Grade conforming to IS 456 with potable water can be used at locations where transportation of ready-mix concrete is not feasible. Minimum cement content in any case shall not be less than 330 kg/m<sup>3</sup>.
- c) The surface of the reinforced steel shall be treated with epoxy-based coating to enhance corrosion performance of foundation. Use of epoxy coated reinforcement in foundation shall be as per IS 13620. In addition, two (2) coats of bituminous painting of minimum 1.6 kg/m<sup>2</sup> per coat shall be applied on all exposed faces of foundation (i.e. pedestal & base slab).
- d) Double coat of 20 mm thick cement plaster shall be provided on all exposed concrete surface as well up to 300 mm below ground level to give protection to concrete surface from environmental and saline effect.
- e) Before coping of chimney top portion, three coats of anti-corrosive paint of minimum 30-35 microns dry film thickness each shall be applied on the stub in the 50 mm coping portion as well as up to 350 mm above CL portion.

A.18.0 The raised chimney foundation is to be provided in areas prone to flooding/water stagnation like paddy field /agricultural field & undulated areas to avoid direct contact of water with steel part of tower. The top of the chimney of foundation should be at least above HFL (High Flood Level) or the historical water stagnation/ logging level (based on locally available data) or above High Tide Level or 500 mm above Natural Ground level (whichever is higher).

A.19.0 Routing of transmission line through protected areas of India shall be avoided to the extent possible. In case, it is not possible to avoid protected areas, the towers of the transmission



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line upto 400 kV level which are installed in protected areas shall be designed for Multi-circuit (4 circuits) configuration of same voltage level considering reliability level of at least two (2). The top two circuits of these multi-circuit towers shall be used for stringing of the transmission line under present scope and the bottom two circuits shall be made available for stringing of any future transmission line of any transmission service providers/ State transmission utilities/Central transmission utilities passing through the same protected area. Further, the configuration and coordinates of such transmission towers shall be submitted to CEA, CTU & BPC by the TSP.

A.20.0 The TSP shall abide by the Guidelines of CEA w.r.t. shifting of transmission lines for NHAI projects and other projects.



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**SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION**

The proposed **765/400/220kV Ishanagar (New) Substation** shall be conventional AIS type generally conforming to the requirements of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations 2022 as amended from time to time. Other CEA Regulations and MoP guidelines, as applicable, shall also be followed.

**B.1.0 Salient features of Substation Equipment and Facilities**

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

**B.1.1 Insulation Coordination**

The system design parameters for substations/switchyards shall be as given below:

Sl. No	Description of parameters	765/400/220kV Ishanagar (New) S/S		
		765 kV System	400 kV System	220 kV System
1.	System operating voltage	765kV	400kV	220kV
2.	Maximum voltage of the system (rms)	800kV	420kV	245kV
3.	Rated frequency	50Hz	50Hz	50Hz
4.	No. of phase	3	3	3
5.	Rated Insulation levels			
i)	Lighting Impulse withstand voltage for (1.2/50 micro sec.) - for Equipment other than Transformer and Reactors - for Insulator String	2100kVp 2100kVp	1425kVp 1550kVp	1050kVp 1050kVp
ii)	Switching impulse withstand voltage (250/2500 micro sec.) dry and wet	1550kVp	1050kVp	-
iii)	One minute power frequency dry withstand voltage (rms)	830 kV	630 kV	-
iv)	One minute power frequency dry and wet withstand voltage (rms)	-	-	460kV





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Sl. No	Description of parameters	765/400/220kV Ishanagar (New) S/S		
		765 kV System	400 kV System	220 kV System
6.	Corona extinction voltage	508 kV	320kV	-
7.	Max. radio interference voltage for frequency between 0.5 MHz and 2 MHz	2500 micro-volts at 508kV rms	1000 micro-volts at 266kV rms	1000 micro-volts at 156kV rms
8.	Minimum creepage distance for insulator string/ longrod insulators/ outdoor bushings	24800 mm (31mm/kV)	13020 mm (31mm/kV)	7595 mm (31mm/kV)
9.	Minimum creepage distance for switchyard equipment	20000 mm (25mm/kV)	10500mm (25mm/kV)	6125 mm (25mm/kV)
10.	Max. fault current	50kA	63kA	50kA
11.	Duration of fault	1 Sec	1 sec	1 Sec

**B.1.2 Switching Scheme**

The switching schemes, as mentioned below, shall be adopted at various voltage levels of substation/switchyard:

Substation	765kV side	400kV side	220kV side
<b>765/400/220 kV Ishanagar (New) S/S (AIS)</b>	One & half breaker	One & half breaker	Double Main & Transfer

Notes: -

- i) For one and half breaker switching scheme, any double circuit line consisting of two numbers feeders and originating from the same transmission or generating switchyard shall not be terminated in one diameter.
- ii) Two transformers of same HV rating shall not be connected in the same diameter and similarly two bus reactors of same HV rating shall also not be connected in the same diameter.
- iii) A diameter in one and half breaker scheme is a set of 3 circuit breakers with associated isolators, earth switches, current transformers etc. for controlling of 2 numbers feeders.
- iv) Connection arrangement of Switchable Line reactors shall be such that it can be used as Line reactor as well as Bus reactor with suitable NGR bypass arrangement.



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v) *Bus sectionalizer;*

*One (1) set of bus sectionalizer for 765kV & 400 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.*

*One (1) set of bus sectionalizer for 220 kV shall comprise 2 nos. of bus sectionalizer bays with associated Circuit Breakers, Isolators and Current Transformers for both buses.*

vi) *TSP shall plan distribution of line and transformer feeders to bus bar in such a way that all power can be evacuated successfully without crossing thermal limit at any point of bus-bar.*vii) *For AIS type substation, TSP shall keep space provisions for future elements such that interconnection arrangement to the corresponding future bays can be done with overhead AIS type connection without any cable/ GIS duct.***B.2.0 Substation Equipment and facilities (Voltage level as applicable):**

The switchgear shall be designed and specified to withstand operating conditions and duty requirements. All equipment shall be designed considering the following capacity.

Sl.No	Description of bay	765/400/220 kV Ishanagar (New) S/S		
		765kV	400kV	220 kV
1.	Bus Bar	4000A	4000A	3000A
2.	Line bay	3150A	3150A	1600A
3.	ICT bay	3150A	3150A	1600A
4.	Bus Reactor bay	3150A	3150A	N/A
5.	Bus Coupler bay	N/A	N/A	3000A
6.	Transfer Bus coupler bay	N/A	N/A	1600A

**B.2.1 (765/√3)/(400/√3)/33 kV, Single Phase Autotransformer**

500 MVA, (765/√3)/(400/√3)/33kV, 1-phase autotransformer (including arrangement for 3-phase bank formation of 1500 MVA) shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended upto date available on CEA website.

Spare 1-phase Transformer unit shall be placed and connected in such a way that the spare unit can be utilized to replace any unit of any of the transformer banks (including for future transformer banks) without physically moving it.



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**B.2.2 (765/ $\sqrt{3}$ ) kV, Single Phase Shunt Reactor**

110 MVAR, 765/ $\sqrt{3}$  kV, 1-Phase Reactor (including arrangement for 3-phase bank formation of 330MVAR) shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended upto date available on CEA website.

Spare 1-phase Shunt Reactor unit shall be placed and connected in such a way that the spare unit can be utilized for all the bus and line reactor banks (including for future reactor banks) without its physical movement.

**B.2.3 400/220/33kV, 3-phase Autotransformer**

500 MVA 400/220/33kV, 3-phase autotransformer shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended up to date available on CEA website.

**B.2.4 420kV, 3-Phase, Shunt Reactor**

125 MVAR, 420 KV, 3-Phase Reactor shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above)" as amended up to date available on CEA website.

**B.2.5 765kV, 400kV & 220kV AIS Substation equipment (as applicable)****B.2.5.1 Circuit Breakers (AIS)**

The circuit breakers and accessories shall conform to IEC: 62271-100, IEC: 62271-1 and shall be of SF6 Type. The circuit breakers shall be of class C2-M2 (as per IEC) with regard to restrike probability during capacitive current breaking and mechanical endurance. The rated break time shall not exceed 40 ms for 765 kV & 400 kV circuit breakers and 60 ms for 220 kV circuit breakers. The Circuit breakers controlling 765 kV lines shall be provided with pre-insertion closing resistor of about 450 ohms maximum with 9 ms insertion time or Controlled Switching Device. The Circuit breakers controlling 400kV lines shall be provided with pre insertion closing resistor of about 400 ohms with 8 ms insertion time or Controlled Switching Device (CSD) for lines longer than 200 km. 765kV, 400kV and 220kV 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. The controlled switching device shall be provided in Circuit breakers of switchable line reactor bay and in Main & Tie bay circuit breakers of line with non-switchable line reactors, Bus reactors and Transformers of 400kV & above voltage class.



**B.2.5.2 Isolators (AIS)**

The isolators shall comply to IEC 62271-102 in general. 765 kV Isolator design shall be double break or vertical break or knee-type. 400 kV & 220 kV isolator shall be double break type. All Isolators and earth switches shall be motor operated. Earth switches shall be provided at various locations to facilitate maintenance. Isolator rated for 765kV, 400 kV & 220 kV shall be of extended mechanical endurance class – M2 and suitable for bus transfer current switching duty as per IEC-62271-102. Main blades and earth blades shall be interlocked and interlock shall be fail safe type. 765 kV, 400 kV & 220 kV earth switches for line isolator shall be suitable for induced current switching duty as defined for Class-B

**B.2.5.3 Current Transformers (AIS)**

Current Transformers shall comply with IEC 61869 in general. All ratios shall be obtained by secondary taps only. Generally, Current Transformers (CT) for 765 kV & 400 kV shall have six cores (four for protection and two for metering). 220 kV Current Transformers shall have five cores (four for protection and one 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 it shall be 0.2S. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 20VA for metering core) for better sensitivity and accuracy. The instrument security factor shall be less than 5 for CTs upto 400 kV and less than 10 for CTs of 765 kV voltage class.

**B.2.5.4 Capacitive Voltage Transformers (AIS)**

Capacitive Voltage transformers shall comply with IEC 61869 in general. These shall have three secondaries out of which two shall be used for protection and one for metering. Accuracy class for protection cores shall be 3P and for metering core shall be 0.2. The Capacitive voltage transformers on lines shall be suitable for Carrier Coupling. The Capacitance of CVT for 400 kV and 220 kV shall be of 4400/8800 pF depending on PLCC requirements whereas the Capacitance of CVT for 765kV shall be 8800 pF. The rated burden of cores shall be closer to the maximum burden requirement of metering & protection system (not more than 50VA for metering core) for better sensitivity and accuracy.

**B.2.5.5 Surge Arresters (AIS)**

624 kV & 336 kV Station High (SH) duty gapless type Surge arresters with thermal energy ( $W_{th}$ ) of minimum 13 kJ/kV and 12 kJ/kV conforming to IEC 60099-4 in general shall be



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provided for 765 kV and 400 kV systems respectively. 216 kV Station Medium (SM) duty gapless type Surge arresters with thermal energy ( $W_{th}$ ) of minimum 7 kJ/kV conforming to IEC 60099-4 in general shall be provided for 220 kV systems. Other characteristics of Surge arrester shall be chosen in accordance with system requirements. Surge arresters shall be provided near line entrances, Transformers & Reactor so as to achieve proper insulation coordination. Surge Arresters shall be provided with porcelain/ polymer housing fitted with pressure relief devices. A leakage current monitor with surge counter shall be provided with each surge arrester.

### B.2.6 Protection Relaying & Control System

The protective relaying system proposed to be provided for transmission lines, auto-transformers, reactors and bus bars to minimize the damage to the equipment in the events of faults and abnormal conditions, is dealt in this section. All main protective relays shall be numerical type with IEC 61850 communication interface and should have Interoperability during integration of numerical relays to communicate over IEC 61850 protocol with RTU/SAS/IEDs of different OEMs. All numerical relays shall have built in disturbance recording feature.

The protection circuits and relays of transformer and reactor shall be electrically and physically segregated into two groups each being independent and capable of providing uninterrupted protection even in the event of one of the protection groups failing, to obtain redundancy, and to take protection systems out for maintenance while the equipment remains in service.

#### a) Transmission Lines Protection

765kV, 400kV and 220kV lines shall have Main-I numerical three zone distance protection scheme with carrier aided inter-tripping feature. 765kV, 400kV and 220kV lines shall also have Main-II numerical distance protection scheme like Main-I but from different make that of Main-I. The Main-I and Main-II protection relays of same make may be provided only if they are of different hardware & manufacturing platform or different principle of operation.

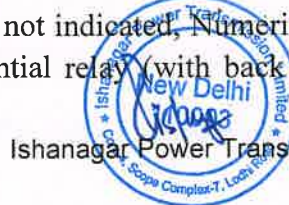
However, Line Current Differential relay (with back up distance protection feature) as Main-I and Main-II shall be considered at both ends for short lines (line length below 30km) having Fibre Optic communication link. Differential relay at remote end shall be provided by the TSP. Associated power & control cabling and integration with SAS at remote end shall be provided by respective bay owner.

In case of 220kV line bays where the line lengths are not indicated, Numerical Distance protection relay as Main-I and Line Current differential relay (with back up distance



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protection feature) as Main-II shall be provided. Further, in such case, the matching line current differential relay for remote end shall be provided by the remote end bay owner.

Further, all 765 kV, 400 kV and 220 kV lines shall be provided with single and three phase auto- reclosing facility to allow reclosing of circuit breakers in case of transient faults. These lines shall also be provided with distance to fault locators to identify the location of fault on transmission lines.

All 765 kV & 400 kV lines shall also be provided with two stages over voltage protection. Over voltage protection & distance to fault locator may be provided as in-built feature of Main-I & Main-II protection relays. Auto reclose as built-in function of Bay Control Unit (BCU) is also acceptable.

The Main-I and Main-II protection relays shall be fed from separate DC sources and shall be mounted in separate panels.

For 765 kV, 400 kV and 220 kV transmission lines, directional IDMT earth fault relay should be provided as standalone unit or in-built feature of Main-I and Main -II feature.

#### **b) Auto Transformer Protection**

These shall have the following protections:

- i) Numerical Differential protection
- ii) Numerical Restricted earth fault protection
- iii) Numerical Back-up Over-current and earth fault protection on HV & MV side
- iv) Numerical Over fluxing protection on HV & MV side
- v) Numerical Overload alarm

Further, Numerical Back-up Over-current and earth fault protection on HV & MV side of autotransformer shall not be combined with other protective functions in the main relays and shall be independent relays. Besides these, power transformers shall also be provided with Buchholz relay, Magnetic Oil Gauge (MOG) with low oil level alarm, protection against high oil and winding temperature and pressure relief device etc.

Suitable monitoring, control (operation of associated circuit breaker & isolator) and protection for LT auxiliary transformer connected to tertiary winding of auto-transformer for the purpose of auxiliary supply shall be provided. The Over current and other necessary protection shall be provided for the auxiliary transformer. These protection and control may be provided as built in feature either in the bay controller to be provided for the auxiliary system or in the control & protection IEDs to be provided for autotransformer.





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**c) Reactor Protection**

Reactor shall be provided with the following protections:

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

Besides these, reactors shall also be provided with Buchholz relay, MOG with low oil level alarm, protection against oil and winding temperatures & pressure relief device, etc.

**d) Bus bar Protection**

The high speed low impedance type 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 765kV, 400kV and 220kV buses. Duplicated bus bar protection is envisaged for 765kV & 400kV bus-bar protection. Bus bar protection scheme shall be such that it operates selectively for each bus and incorporate necessary features required for ensuring security. The scheme shall have complete bus bar protection for present as well as future bays envisaged i.e. input / output modules for future bays shall also be provided.

Bus Bar protection system for new substation shall be de-centralized (distributed) type.

In case, the bus section is provided, then each side of bus section shall have separate set of bus-bar protection schemes.

For existing substations, the existing bus bar protection shall be augmented as per requirement.

**e) Local Breaker Back up Protection**

This shall be provided for each 765kV, 400kV and 220kV circuit breakers and will be connected to de-energize the affected stuck breaker from both sides.

*Notes:*

1. *LBB & REF relays shall be provided separately from transformer differential relay.*
2. *LBB relay may also be provided as built-in protection function of distributed bus bar protection scheme; however, in such case separate LBB relay shall be provided for tie bays (in case of One and Half breaker scheme).*

3. *Over fluxing & overload protection can be provided as built-in feature of*



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*differential relay.*

4. *In 765kV & 400kV switchyard, if spare bay of half diameter is identified as future, Tie CB relay panel shall be with Auto-reclosure feature.*

### **B.2.7 Substation Automation System**

- a) For all the new substations, state of art Substation Automation System (SAS) conforming to IEC-61850 shall be provided. The distributed architecture shall be used for Substation Automation system, where the controls shall be provided through Bay control units. The Bay control unit is to be provided bay wise for voltage level 220kV 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 circuit breaker, dis-connector, re-setting of relays etc. can be done from Human Machine Interface (HMI) from the control room.

The functions of control, annunciation, disturbance recording, event logging and measurement of electrical parameters shall be integrated in Substation Automation System.

At new substations, the Substation Automation System (SAS) shall be suitable for operation and monitoring of the complete substation including proposed future bays/elements.

In existing substations with Substation automation system (SAS), augmentation of existing SAS shall be done for bays under present scope.

In existing Substations where Substation automation is not provided, control functions shall be done through control panels.

Necessary gateway & modems (as required) shall be provided to send data to RLDC/SLDC as per their requirement. Any augmentation work at RLDC/SLDC is excluded from TSP's scope. However, all the configuration work at substation end required to send data to RLDC/SLDC shall be in the scope of TSP.

### **b) Time synchronization equipment**

Time synchronization equipment complete in all respect including antenna, cable, processing equipment required to receive time signal through GPS or from National Physical Laboratory (NPL) through INSAT shall be provided at new substations. This equipment shall be used to synchronize SAS & IEDs etc.



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**B.2.8 Phasor Measurement Units (PMUs)**

TSP shall supply, install & commission required no. of Phasor Measurement Units (PMUs) for all 400kV and above voltage line bays under the scope of work and PMUs shall support latest IEEE C-37.118 protocols. The supplied PMUs may be mounted in the C&R/SAS panels. These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room with Fibre Optic cable which shall further be interfaced with the FOTE. These PMUs shall be integrated with the existing PDC (Phasor Data Concentrator) located at respective RLDC. Configuration work in existing PDC at RLDC for new PMU integration is not in scope of TSP (shall be done by respective RLDC), however all the necessary co-ordination and support in this regard shall be ensured by TSP.

In case of bay extensions work, TSP shall also provide separate WAMS (PMU, switches, interface cabling and other associated accessories) required for extended bays at existing s/s.

**B.3.0 Substation Support facilities**

Certain facilities required for operation & maintenance of substations as described below shall be provided at new substation. In existing substation, these facilities have already been provided and would be extended/ augmented as per requirement.

**B.3.1 AC & DC power supplies**

For catering the requirements of three phase & single phase AC supply and DC supply for various substation equipment (for present and future scope), the following arrangement is envisaged:-

- (i) For LT Supply at each new Substation, two (2) nos. of auxiliary Transformers (minimum 800kVA for substations with highest voltage rating as 765kV) shall be provided which shall be fed from two independent sources as per the CEA (Technical Standards for Connectivity to the Grid) Regulations, 2007.

Metering arrangement with Special Energy Meters (SEMs) shall be provided by TSP at 33kV tertiary of Transformer for drawing auxiliary supply at new substation. Such SEMs shall be provided by CTU at the cost of the TSP. Accounting of such energy drawn by the TSP shall be done by RLDC/RPC as part of Regional Energy Accounting.

Additionally, Active Energy Meters may be provided at the same point in the 33kV tertiary of Transformer by local SEB/DISCOM for energy accounting.

- (ii) 2 sets of 220V battery banks for control & protection and 2 sets of 48V battery banks for



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PLCC/ communication equipment shall be provided at each new Substation. Each battery bank shall have a float-cum-boost charger.

At new substation, sizing of 220 V battery and battery charger shall be done based on the number of bays specified (including future bays) as per CEA Regulations and relevant IS. 2 sets of 48 V battery banks for PLCC and communication equipment for present and future scope shall be provided at each new Substation with at least 10-hour battery backup and extended backup, if required 48 V DC can be achieved from 220 V DC battery bank using adapter, if so desired by TSP, without compromising backup time.

- (iii) Suitable AC & DC distribution boards and associated LT Switchgear shall be provided at new substation.

For new substation, following switch boards shall be considered with duplicate supply with bus coupler/ sectionalizer and duplicate outgoing feeders except for Emergency lighting distribution board which shall have only one incoming feeder:

- (a) 415V Main Switch board – 1 nos.
- (b) AC distribution board – 1 nos.
- (c) Main lighting distribution board – 1 no.
- (d) Emergency lighting distribution board – 1 no.
- (e) 220 Volt DC distribution board – 2 nos.
- (f) 48 Volt DC distribution board – 2 nos.

Sizing of LT Switchgear shall be suitable to cater the requirement for all present and future bays. AC & DC distribution boards shall have equipped modules for all the feeders (including future as specified).

- (iv) At new Substation, one no. of DG set (minimum 500kVA for substations with highest voltage rating as 765kV) shall be provided for emergency applications.
- (v) For substation extensions, existing facilities shall be augmented as required.

### B.3.2 Fire Fighting System

Fire-fighting system for substation including transformer & reactor shall conform to CEA (Measures Relating to Safety & Electric Supply) Regulations.

Further, adequate water hydrants and portable fire extinguishers shall be provided in the substations. The main header of firefighting system shall be suitable for extension to bays covered under the future scope; necessary piping interface in this regard shall be provided.

Optical Beam type heat detection for GIS hall fire protection system shall be provided for all the GIS halls.



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At existing substations, the fire-fighting systems as available shall be extended to meet the additional requirements.

**B.3.3 Oil evacuating, filtering, testing & filling apparatus**

To monitor the quality of oil for satisfactory performance of transformers, shunt reactors and for periodical maintenance necessary oil evacuating, filtering, testing and filling apparatus would be provided at new substations. Oil storage tanks of adequate capacities for storage of transformer oil would be provided.

**B 3.4 Illumination**

Normal & emergency AC & DC illumination shall be provided adequately in the control room & other buildings of the substation. The switchyard shall also be provided with adequate illumination.

Lighting of the entire control room building, fire-fighting pump house, other building (if any) and switchyard shall be done by LED based low power consumption luminaires.

**B.3.5 Control Room**

For new substation, substation control room shall be provided to house substation work stations for station level control (SAS) along with its peripheral and recording equipment, AC & DC distribution boards, DC batteries & associated battery chargers, Fire Protection panels, Telecommunication panels & other panels as per requirements. Air conditioning shall be provided in the building as functional requirements. Main cable trenches from the control room shall have adequate space provision for laying of cables from control room for all the future bays also.

At existing substations, the adequacy of size of control room shall be ascertained and the same shall be augmented as per requirement.

**B.3.6 Control Concept**

All the EHV circuit breakers in substation/switching stations shall be controlled and synchronized from the switchyard control room/remote control center. All the isolators shall have control from remote/local whereas the earth switches shall have local control only.

**B.3.7 Visual monitoring system (VMS) for watch and ward of substation premises:**

Visual monitoring system for effective watch and ward of substation premises shall cover all the transformers and reactors, all other major AIS Equipment (such as CB, isolators, CT, CVT, SA etc. as applicable), GIS bays, panel room, all the gates of switchyard and all entry and exit points of control room building and accordingly the location of cameras

shall be decided. The camera shall be high definition color CCD camera with night vision feature. The VMS data partly/completely shall be recorded (minimum for 15 days) at least @25 fps (or better) and stored on network video recorder. The system shall use video signals from various cameras installed at different locations, process them for viewing on workstations/monitors in the control room and simultaneously record all the cameras.

Mouse/keyboard controllers shall be used for pan, tilt, zoom and other functions of the desired camera. The Visual Monitoring System shall have provision of WAN connectivity for remote monitoring.

All camera recordings shall have Camera ID & location/area of recording as well as date/time stamp. The equipment should generally conform to Electromagnetic compatibility requirement for outdoor equipment in EHV substation.

At existing substations, the visual monitoring system if available shall be augmented as per existing or better specification as required.

#### B.4.0 General Facilities

- a) Line Gantry/Towers are envisaged for bays under present scope only. However, for adjacent future line bay, tower shall be designed for extension (considering Quad conductors for 765kV & 400kV future lines and Twin conductor for 220 kV future lines) wherever applicable.
- b) Bay extension works at existing substation shall be executed by TSP in accordance with the requirement/provisions mentioned above. However, interface points shall be considered keeping in view the existing design/arrangement at the substation.
- c) TSP has to arrange for construction power and water on its own.
- d) All outdoor steel structures including anchor/foundation bolts shall be fully galvanized. The weight of the zinc coating shall be at least 610 g/m<sup>2</sup>. however, for coastal/creek regions it shall be at least 900 g/m<sup>2</sup>.
- e) In 765kV & 400kV switchyard, if spare bay of half diameter is identified as future, all the equipment for Tie & Future bay shall be designed considering the current rating of line bay i.e. 3150A.
- f) Boundary wall shall be brick masonry wall with RCC frame or Stone masonry wall or Precast RCC wall under present scope along the property line of complete substation area including future switchyard area to prevent encroachment and unauthorized access.



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Minimum height of the boundary wall shall be of 1.8 m from finished ground level (FGL)

- g) All electrical equipment shall be installed above Highest Flood Level and where such equipment is not possible to be installed above Highest Flood Level, it shall be ensured that there is no seepage or leakage or logging of water.



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**SPECIFIC TECHNICAL REQUIREMENTS FOR COMMUNICATION**

The communication requirement shall be in accordance to CEA (Technical Standards for Communication System in Power System Operations) Regulations, 2020, CERC (Communication System for inter-State transmission of electricity) Regulations, 2017 and CEA (Cyber Security in Power Sector) Guidelines, 2021, all above documents as amended from time to time.

The complete ISTS communication system commissioned by TSP under the RFP shall be the asset of ISTS and shall be available for usage of ISTS requirements as suggested by CTU from time to time.

The protections for transmission line and the line compensating equipment shall have hundred percent back up communication channels i.e. two channels for tele- protection in addition to one channel for speech plus data for each direction.

In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall provide the following:

**C.1.0 Establishment of 765/400/220kV Ishanagar (New) along with 1x330 MVar, 765 kV & 1x125 MVar, 420 kV bus reactor.**

- (I) TSP shall supply, install & commission 1 no. FODP (96 F) & 1 no. FODP (72 F or higher) along with panels and Approach Cables (24F) with all associated hardware fittings from gantry towers to Control Room for all the incoming lines envisaged under the present scope.
- (II) TSP shall supply, install & commission One or more STM-16 (FOTE) equipment alongwith panel/s supporting minimum Seven (7) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Communication Equipment shall be provided with necessary interfaces to meet the voice and data communication requirement among Ishanagar (New) S/S, Jabalpur, Orai S/S and upcoming MPPTCL stations. The suitable DC Power Supply and backup to be provided for communication equipment.
- (III) FOTE & FODP equipment with panel shall be installed in the Control Room of Ishanagar (New) S/S. FOTE & FODP Equipment can be accommodated in the same panel to optimize space at Control Room.



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- (IV) The new communication equipment and its NMS under the present scope shall be compatible for integration with existing regional level centralized NMS. The local configuration of the new communication equipment shall be the responsibility of TSP. The configuration work in the existing centralized NMS for integration of new Communication equipment shall be done by Regional ULDC Team, however all the necessary support in this regard shall be ensured by TSP.
- (V) TSP shall supply, install & commission Firewall in redundant mode (1+1) in line with the specification attached at Appendix E.2.
- (VI) The maintenance of all the communication equipment including FOTE, FODP, approach cable, DCPS alongwith Battery Bank shall be the responsibility of TSP.

**C.2.0 LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)**

On LILO of one ckt of Jabalpur – Orai 765 kV D/c line at Ishanagar (New) S/S, TSP to install OPGW and earthwire as per Tower Configurations:

- (i) For Multi Circuit Tower Configuration: Two (2) no. OPGW cable containing 24 Fibres (24F) each on both the Earthwire peaks to be supplied and installed by TSP.
- (ii) For Double Circuit Tower configuration: Two (2) no. OPGW cable containing 24 Fibres (24F) each on both the Earthwire peaks to be supplied and installed by TSP.

The TSP shall install OPGW cables from gantry of Ishanagar (New) S/S up to the LILO tower with all associated hardware including Vibration Dampers, LILO tower, mid-way & gantry Joint Boxes (called OPGW Hardware hereafter) and finally terminate in Joint Boxes at Ishanagar (New) S/S. TSP to also provide suitable optical interfaces/equipment at Orai S/S and Jabalpur S/S to meet link budget requirement for connectivity with Ishanagar (New) S/S. The transmission line length of LILO portion is 5 kms (approx.), if after survey repeater/repeaters are required to meet the link budget requirement of Orai–Ishanagar (New) S/S & Jabalpur – Ishanagar (New) S/S link, the same shall be provided by TSP.

TSP shall finalize the location of repeater station depending upon the actual site conditions. Further, TSP shall comply to the requirements mentioned as per Appendix-

**E.1.**



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Maintenance of OPGW Cable, **OPGW Hardware** & repeater equipment & items associated with repeater shelter shall be responsibility of TSP.

**Note:** Existing Station owner/s to provide necessary support to integrate different - equipment & applications of new extended bays with the existing substation e.g. Communication (through FOTE), Voice etc. for smooth operation and monitoring of new added grid elements.

### C.3.0 PLCC & PABX:

Power line carrier communication (PLCC) equipment complete for speech, tele protection commands and data channels shall be provided on each transmission line. The PLCC equipment shall in brief include the following:

Coupling device, line traps, carrier terminals, protection couplers, HF cables, PABX (if applicable) and maintenance and testing instruments.

At new substation, a telephone exchange (PABX) of 24 lines shall be provided at as means of effective communication among various buildings of the substation, remote end substations and with control centres (RLDC/SLDC) etc.

Coupling devices shall be suitable for phase to phase coupling for 400kV Transmission lines. The pass band of coupling devices shall have sufficient margin for adding communication channel in future if required. Necessary protection devices for safety of personnel and low voltage part against power frequency voltages and transient over voltage shall also be provided.

The line traps shall be broad band tuned suitable for blocking the complete range of carrier frequencies. Line Trap shall have necessary protective devices such as lightning arresters for the protection of tuning device. Decoupling network consisting of line traps and coupling capacitors may also be required at certain substation in case of extreme frequency congestion.

The carrier terminals shall be of single side-band (SSB) amplitude modulation (AM) type and shall have 4 kHz band width. PLCC Carrier terminals and Protection couplers shall be considered for both ends of the line.

PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, CVT & Wave trap for all 765kV, 400kV & 220kV line bays under present scope shall be provided by TSP.

TSP shall provide/ undertake necessary addition/ modification/ shifting/ re-commissioning

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etc. of PLCC equipment due to LILO of transmission lines (wherever applicable) as mentioned below:

SI.No	Line name	PLCC configuration
1	LILO of one circuit of Jabalpur-Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	1 set Analog PLCC + 1 set Digital Protection Coupler at each end after LILO. Existing PLCC panels can also be utilized.

1. All other associated equipment like cabling, coupling device and HF cable shall also be provided by the TSP.
2. 2 sets of 48V battery banks for PLCC and communication equipment shall be provided at each new Substation with at least 10 hours battery backup and extended backup, if required.



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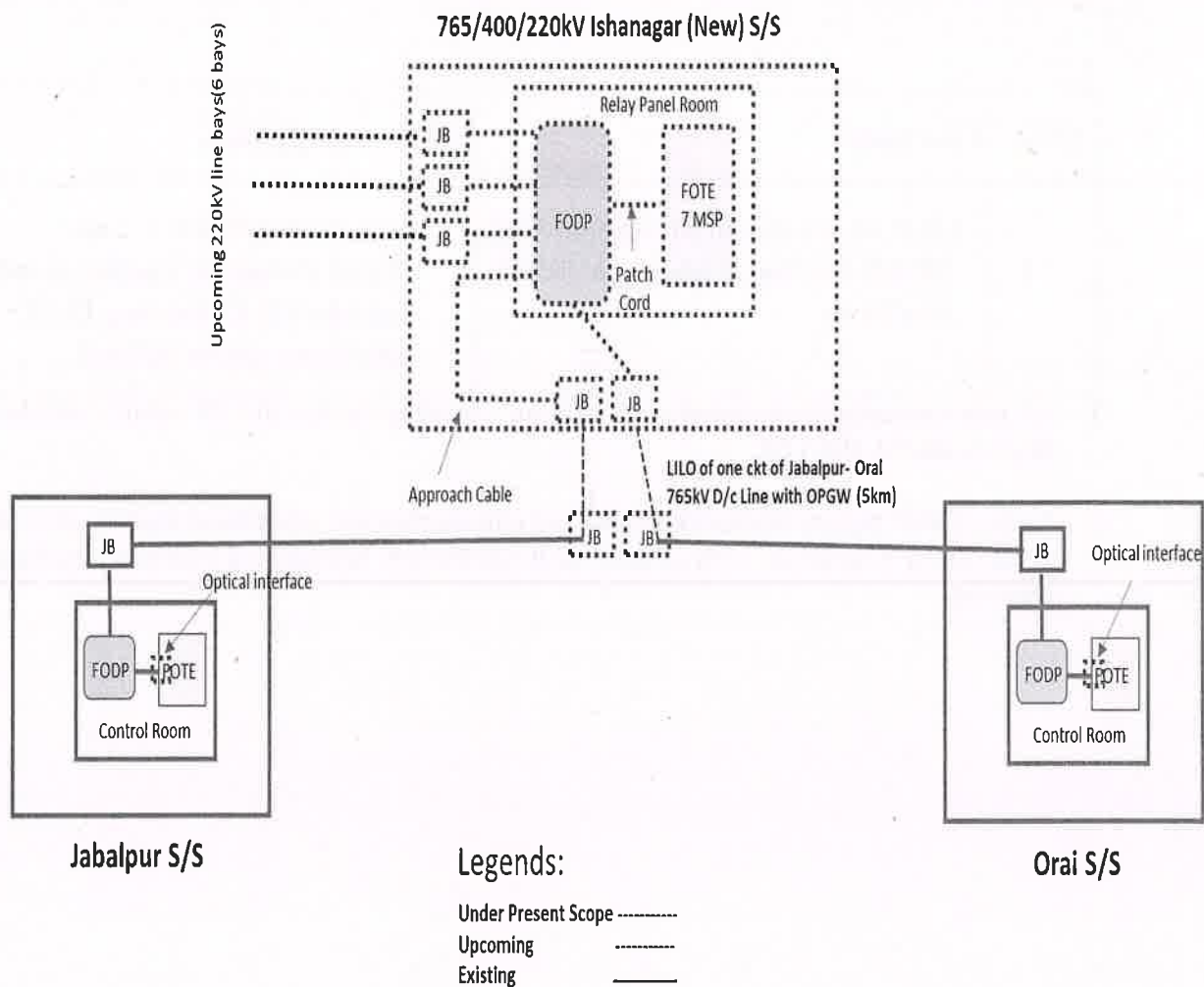
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## Proposed Communication for WRES-XXXIII Part C



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## Appendix-E.1

**Repeater Requirements**

- If the repeater location is finalized in the Control Room of a nearby substation, TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the repeater equipment in substation control room. TSP shall co-ordinate for Space & DC power supply sharing for repeater equipment. TSP shall provide FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link.

OR

- If the repeater location is finalized in the nearby substation premises, the TSP shall identify the Space for repeater shelter in consultation with station owner. Further TSP shall provide 1 no. OPGW (48F) on a single Earthwire peak with OPGW Hardware & mid-way Joint Boxes etc. of the line crossing the main line and 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings, to establish connectivity between crossing point of main transmission line up to the substation where the repeater shelter is to be housed. TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems.

OR

- If the repeater location is finalized on land near the transmission tower. TSP shall make the provisions for Land at nearby tower for repeater shelter. Further TSP shall provide 1 no. Approach Cable (48F) / UGFO (48F) with all associated hardware fittings to establish connectivity up to the location of repeater shelter. TSP shall provide repeater shelter along with FODP, FOTE (with STM-16 capacity) with suitable interfaces require for link budget of respective link, reliable power supply provisioning for AC and DC supply, battery bank, Air Conditioner and other associated systems

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Maintenance of OPGW Cable and **OPGW Hardware**, repeater equipment & items associated with repeater shelter shall be responsibility of TSP.



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**Appendix-E.2****Next Generation Firewall (NGFW)**

TSP shall provide 2 NGFW one in Main & another in Standby mode having electrical ethernet interfaces/ports and placed between FOTE & SAS gateway/s at the substation. All ethernet based applications shall be terminated in the firewall ports directly (e.g. PMU, AMR, VOIP, SAS/SCADA etc.). Each port of firewall shall work as a separate zone. Firewall shall be hardware based with features of Block/Allow/drop and IPSec VPN (network encryption).

The number of ports/interfaces in each firewall (i.e. Main & Standby) shall be minimum 16 nos. TSP shall provide either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps.

The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/configure through Centralized Management Console (CMC) remotely in future.

Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance.

The specifications for the firewalls are given at **Appendix-E.3** and schematic diagram showing firewall placement given at **Figure E.2**.



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## Appendix E.3

**Specifications of Next Generation Firewall (NGFW)**

1. NGFW shall have following features including but not limited to:  
Encryption through IPsec VPN (Virtual Private Network), Deep Packet Inspection (DPI), Denial of service (DoS) & Distributed Denial of Service (DDoS) prevention, Port Block/Allow, rules/ policies for block/allow, IP (Internet Protocol) & Media Access Control (MAC) spoofing protection, threat detection, Intrusion Prevention System (IPS), Anti-Virus, Anti-Spyware, Man In The Middle (MITM) attack prevention.
2. The proposed firewall shall be able to handle (alert, block or allow) unknown /unidentified applications e.g. unknown TCP & UDP packets. It shall have the provision to define application control list based on application group and/or list.
3. Firewall shall have feature and also have capability to update the definition/ Signatures of Anti-Virus online as well as offline. Firewall shall also be compatible to update the definitions/signatures through CMC. There shall be a defined process for security patching and firmware up-gradation. There shall be a feature to field validate firmware checksum. The same shall also be validated before using the OEM provided file/binary in the process of firmware up-gradation and security patching.
4. Firewall shall have Management Console port to configure remotely.
5. Firewall shall be EMI/EMC compliant in Substation environment as per IEC 61850-3.
6. Firewall shall be rack mounted in existing standard equipment cabinets.
7. Firewall shall have support of SCADA applications (IEC-60870-5-104), IEC, PMU (IEEE C37.118), Sub-Station Automation System (IEC 61850), Ethernet and other substation environment protocols.
8. Client based Encryption/ VPN must support different Operating System platforms e.g. Windows, Linux & Mac.
9. The solution must have content and comprehensive file detection policies, blocking the files as function of their types, protocols and directions.
10. Firewall shall have logging facility as per standard logs/events format. Firewall shall have features to export the generated/stored logs/events in csv (Comma Separated Value) and also any other standard formats for offline usage, analysis and compliance. Firewall shall





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have suitable memory architecture and solution to store and be enable to export all logs/events for a period of last 90 days at any given time.

11. Firewall shall have features and be compatible with local as well as central authentication system (RADIUS, LDAP, or TACACS+) for user account and access right management. It shall also have Role Based User management feature.
12. Firewall shall have the capability to configure sufficient number of VLANs.
13. Firewall shall have the capability to support sufficient number of sessions.
14. Firewall shall have provision to configure multiple IP Sec VPNs, at least 100 nos., (one-to-many or many-to-one). Shall support redundant operation with a similar router after creation of all the IP Sec VPN. IPSec VPN shall support encryption protocols as AES128, AES256 and hashing algorithms as MD5 and SHA1. IPSec VPN throughput shall support at least 300 Mbps
15. Firewall shall be capable of SNMP v3 for monitoring from Network Management system. It shall also have SNMPv3 encrypted authentication and access security
16. Firewall shall support in Active/Passive or Active-Active mode with High Availability features like load balancing, failover for firewall and IPsec VPN without losing the session connectivity.
17. Firewall should have integrated traffic shaping (bandwidth, allocation, prioritisation, etc.) functionality
18. Shall support simultaneous operation with both IPv4 and IPv6 traffic
19. Firewall shall be compatible with SNTP/NTP or any other standards for clock synchronization
20. Firewall shall have the features of port as well as MAC based security
21. Firewall shall support exporting of logs to a centralized log management system (e.g. syslog) for security event and information management.
22. Firewall time shall be kept synchronised to official Indian Timekeeping agency, time.nplindia.org.
23. Firewall product shall be provided with all applicable updates at least until 36 months since the applicable date of product shipping to the concerned utility.



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## Firewall Placement Diagram

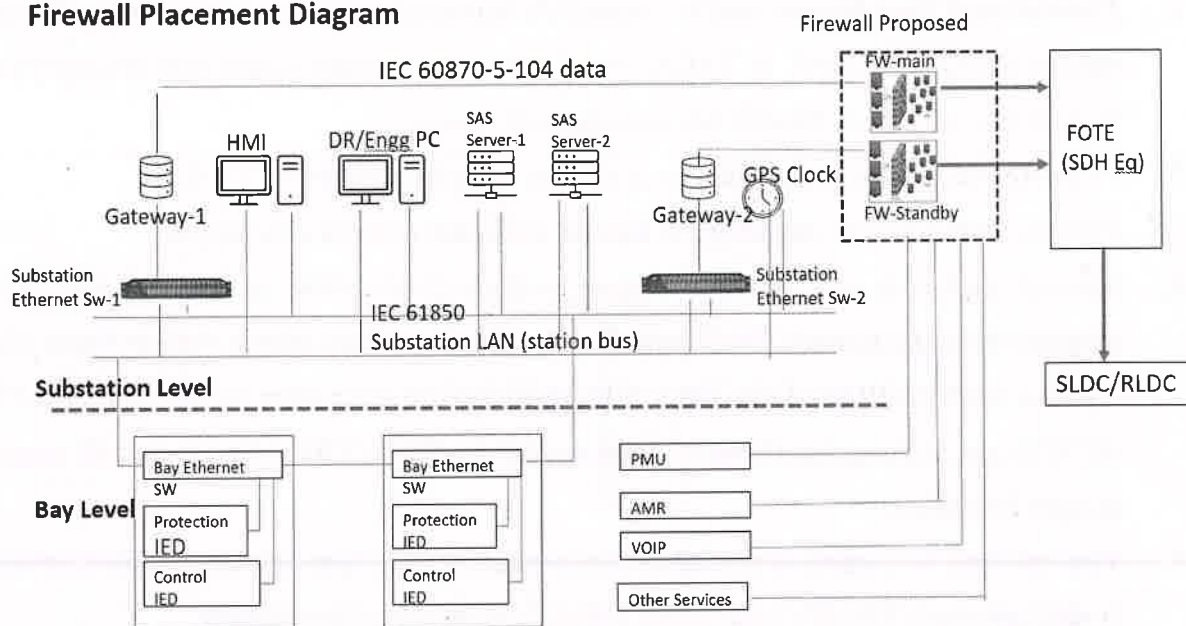


Figure E.2





**Frequently Asked Queries:****1.0 Transmission Line:**

- 1.1 Please clarify that whether shutdowns for crossing of existing transmission lines of POWERGRID/STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP on chargeable basis or free of cost.

Reply: Shutdowns for crossing of existing transmission lines of POWERGRID/ STUs/ Power Evacuation Lines from Generation Plants/ Any other Transmission Licensee will be given to TSP by the concerned owner of the lines as per their own terms & conditions. As far as shutdown of ISTS lines are concerned the same can be availed by approaching respective Regional Power Committee.

- 1.2 We understand that the suggested swing angle criteria are applicable for Suspension Insulator in Suspension Tower. Further, you are requested to provide similar swing angle and clearance criteria for Pilot Insulator with Jumper & Jumper.

Reply: It is clarified that the swing angle criteria (as mentioned in RFP) for transmission lines is applicable for Suspension Insulator in Suspension Tower. Further, as per Clause 3.0 of Specific Technical Requirements for transmission lines, Transmission service Provider (TSP) shall adopt any additional loading/design criteria for ensuring reliability of the line, if so desired and /or deemed necessary.

- 1.3 We request you to kindly allow that use of diamond configuration at Power line crossings and the existing owner of the lines may be directed to allow the same for the successful bidders.

Reply: Power line crossing including Diamond configuration is responsibility of the TSP. TSP shall formally submit the profile of the crossing section to the owner of the existing line suggesting proposed crossing alternatives. The crossing will have to be carried out as per approval of owner of the existing line.

- 1.4 It is requested you to kindly provide present status of Forest Clearances if any transmission line corridor area falling in wildlife forest / reserve forest/ mangroves.

Reply: Based on the preliminary route survey, the process of initiation of forest clearance for the forest stretches, if any, enroute the proposed line alignment will be initiated by way of writing letters to the concerned authority (ies).



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However, it may be noted that it will be the responsibility of TSP for obtaining forest clearance for the forest stretches as provided in the survey report and also for any forest area encountered during detailed survey.

## 2.0 Substation

- 2.1 We understand that space for storage of O&M spare shall be provided by existing owner within the station boundary without any cost. Kindly confirm.

**Reply:** Space for storage of O&M spares shall be arranged by TSP on its own.

- 2.2 We presume that the O&M for the end Termination bays will be in the scope of the TSP and TSP shall not be liable for any payment towards O&M to the existing owner of the substation. Kindly confirm.

**Reply:** Operation and maintenance of the bays is solely responsibility of the TSP.

- 2.3 With reference to subject scheme of existing sub-station, we assumed following scope of work:

- (a) We assumed internal road is available and need not to consider in the present scope of work.
- (b) Drainage is available and need not to consider in the present scope of work.
- (c) Cable trench extension in adjacent to Main cable trench only under present scope of work.
- (d) Levelled area being provided by developer for bay extension.

**Reply:** Regarding requirement of internal road, drainage, cable trench, leveling of the bay extension area, bidder is advised to visit site and acquaint themselves with the provisions/facilities available at substation.

- 2.4 Kindly provide the soil investigation report of soil parameters of existing substation.

**Reply:** Bidder is advised to visit the substation site and ascertain the requisite parameters.

- 2.5 Kindly confirm, energy accounting of aux. power consumption. Whether it will be on chargeable basis or part of transmission loss.

**Reply:** It will be on chargeable basis.

- 2.6 We understand that VMS requirement is for unmanned stations only. For Manned stations VMS is not compulsory.

**Reply:** VMS shall be provided in line with requirements of RfP document.

- 2.7 It is understood that Construction water and power shall be provided free of cost

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to TSP by respective substation owner for construction of new bays.

Reply: Arrangement of construction power & water is in the scope of TSP.

- 2.8 It is understood that existing fire hydrant system shall be extended by the TSP for bay extension.

Reply: Existing fire hydrant system shall be extended from existing system (if required)

- 2.9 Please clarify that Status of land acquisition for Substations. Whether the lands have been acquired by BPC and will be transferred to TSP.

Reply: The acquisition of land for substation is in the scope of TSP.

- 2.10 We understood that no any dedicated metering CT & CVT required for Line/feeders. Further, we understood that requisite Energy meters for various 765kV, 400kV & 220kV Feeders shall be provided & installed by CTU free of cost to TSP.

Reply: Dedicated metering CT and CVT are not required for line/feeders. Metering core of existing CT/CVT can be used provided accuracy class is matching with metering requirement. Requisite Special Energy Meters shall be provided and installed by CTU at the cost of TSP in C&P panel subject to space availability, else, in separate metering panel (to be provided by TSP at its cost).

- 2.11 It is understood that TSP to follow the RFP for Technical Requirement. Only interface drawings like CRP & SCADA shall be coordinated with existing S/S owner.

Reply: All necessary coordination shall be done with exiting s/s owner w.r.t interface along with augmentation required as per RfP.

- 2.12 We understand that there are only two communication channels, Channel-1 for protection-1+ Speech via. PLCC, Channel-2 for Protection-2 + data via. FOTE. Hence, we do not envisage any separate channel for speech + data as the same can be achieved with FOTE system. Therefore, we understand that TSP is allowed to implement best possible solutions accordingly. Kindly confirm

Reply: PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.

- 2.13 We understand that one set of analog circuit protection coupler shall be for PLCC and another set for Digital protection coupler for FOTE. Kindly confirm

Reply: PLCC equipment for all the transmission lines covered under the scheme (consisting of one set of analog PLCC channel along with circuit protection coupler and one set of Digital protection coupler for both ends) shall be provided by TSP. Further, OPGW based terminal equipment shall be utilized for Speech+ Data.

### 3.0 Communication

3.1 What are the usages of OPGW, FOTE, PMU etc. under communication requirement of RFP?

Reply: User shall be responsible for providing compatible equipment along with appropriate interface for uninterrupted communication with the concerned control center and shall be responsible for successful integration with the communication system provided by CTU.

Communication systems e.g. OPGW, FOTE, PMU etc. are required for grid operation through RLDC/SLDC, speech communication, tele-protection and tele-metering.

3.2 Is space for installation of communication panels are provided to TSP in existing Substations incase new bays are in the scope of TSP?

Reply: The space related issues are deliberated in the RFP itself. TSP to carry out survey of the existing substation for physical space requirement. In case space is not available in the existing substation then TSP shall accommodate

the same in the respective bay SPR (Switchyard Panel Room)/Bay Kiosk/ Relay panel room in case of GIS s/s. Further, TSP to connect and integrate the proposed FOTE with the existing FOTE in the control room.

In Case 132kV Substation TSP shall accommodate the said panels either by extension of existing control room or other arrangements.

3.3 How is the OPGW laying done in case of LILO lines?

Reply: In case LILO lines are on same towers (e.g. both Line in and Line Out portion are on same towers, generally done LILO of S/C lines). Then 2x24FOPGW shall be required to install by TSP on both earthwire peak on 400kV & 765kV lines where two E/W peaks are available. On 220 & 132kV lines where only one E/W peak is available TSP to install one no. 48F OPGW.

Incase LILO lines are on different towers (e.g. both Line In and Line Out portion are on different towers, generally done LILO of D/C lines). Then 1x24F OPGW shall be required to install by TSP on one earthwire peak, on both Line In and Line Out portions of 400kV & 765kV lines. On 220 & 132kV lines where only one E/W peak is available TSP to install one no. 24F OPGW in place of conventional earthwire.





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## 3.4 How is the OPGW laying done in case Multi circuit Towers?

Reply: In case two different lines are using common multi circuit portion for some distance (originating from different stations, may be terminating on same or on different stations). Two no. 24F OPGW to be installed on both E/W peaks for common M/C portion of 765kV & 400kV lines.

In case 220/132kV lines using multi circuit portion where single E/W peak is available one no. 48F may be installed for common multi circuit portion.



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**Schedule: 2****Scheduled COD**

**[Note: As referred to in the definition of “Element”, “Scheduled COD”, and in Articles 3.1.3 (c), 4 (b) and 4.3 (a) of this Agreement]**

S.No.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVA, 765 kV & 1x125 MVA, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

**Note :**

The payment of Transmission Charges for any Element, irrespective of its successful commissioning on or before its Scheduled COD, shall only be considered after successful commissioning of the Element(s), which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project is: 24 months from the date of SPV transfer.

**[Note: List of Element(s) along with the critical Element(s) to be provided by CEA]**



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**Schedule: 3****Safety Rules and Procedures**

[Note: As referred to in Articles 5.6 of this Agreement]

**1: Site Regulations and Safety:**

The TSP shall establish Site regulations within sixty (60) days from fulfilment of conditions subsequent, as per Prudent Utility Practices setting out the rules to be observed till expiry of the Agreement at the Site and shall comply therewith.

Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Project, gate control, sanitation, medical care, and fire prevention, public health, environment protection, security of public life, etc.

Copies of such Site regulations shall be provided to the Nodal Agency and the CEA for the purpose of monitoring of the Project.

**2: Emergency Work:**

In cases of any emergency, the TSP shall carry out all necessary remedial work as may be necessary.

If the work done or caused to be done by any entity, other than the TSP, the TSP shall, reimburse the actual costs incurred, to the other Party carrying out such remedial works.

**3: Site Clearance:**

In the course of execution of the Agreement, the TSP shall keep the Site reasonably free from all unnecessary obstruction, storage, remove any surplus materials, clear away any wreckage, rubbish and temporary works from the Site, and remove any equipment no longer required for execution of the Agreement. After completion of all Elements of the Project, the TSP shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site clean and safe.

**4: Watching and Lighting:**

The TSP shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper construction, operation, maintenance / repair of any of the Elements of the Project, or for the safety of the owners and occupiers of adjacent property and for the safety of the public, during such maintenance / repair.



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**Schedule: 4****Computation of Transmission Charges****1.1 General**

The Monthly Transmission Charges to be paid to the TSP for providing Transmission Service for any Contract Year during the term of the Agreement shall be computed in accordance with this Schedule and paid as per Sharing Regulations.

Illustration regarding payment of Transmission Charges under various scenarios (considering definitions of Contract Year, Expiry Date & Monthly Transmission Charges above) is as below: -

**Illustration-1: In case the Project Elements achieve COD as per Schedule**

Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	28	1-Feb-2018	1-Feb-2018	25%
Element 2	38	1-Dec-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	140 X 25% X ((28+31)/365)	5.65		--	0.00
1-Apr-18 to 30-Nov-18	140 X 25% X (244/365)	23.39		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

**Illustration-2: In case of extension of Scheduled COD as per Article 4.4.1 & 4.4.2 of this Agreement**

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Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Jul-2018	25%
Element 2	28	1-Oct-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Jun-18	--	0.00		--	0.00
1-Jul-18 to 30-Nov-18	140 X 25% X (153/365)	14.67		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59

**Illustration-3: In case of delay in achieving COD of Project & all individual Elements (COD of the Project achieved in Contract Year 1)**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Dec-2018	25%

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Element 2	28	1-Oct-2018	1-Dec-2018	75%
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Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Sept-18	--	0.00		--	0.00
1-Oct-18 to 30-Nov-18	--	0.00	1-Oct-18 to 30-Nov-18	--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59



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**Illustration-4: In case of delay in achieving COD of Project & all individual Elements (COD of the Project achieved in Contract Year other than Contract Year 1)**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-May-2020	25%
Element 2	38	1-Oct-2019	1-May-2020	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Oct-19 to 31-Mar-20	--	0.00	1-Oct-19 to 31-Mar-20	--	0.00
1-Apr-20 to 30-Apr-20	-	0.00	1-Apr-20 to 30-Apr-20	-	0.00
1-May-20 to 31-Mar-21	140 X 100% X (335/365)				128.49
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
.....					
.....					
36 (1-Apr to 30-Apr)	140 X 100% X (30/ 365)				11.51



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**Illustration5: In case of delay in achieving COD of Element but Project COD achieved on time**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	20	1-Feb-2018	1-Jul-2018	25%
Element 2	30	1-Dec-2018	1-Dec-2018	75%

Tariff Payable as follows:

Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Feb-18 to 31-Mar-18	--	0.00		--	0.00
1-Apr-18 to 30-Jun-18	--	0.00		--	0.00
1-Jul-18 to 30-Nov-18	140 X 25% X (153/365)	14.67		--	0.00
1-Dec-18 to 31-Mar-19	140 X 100% X (121/365)				46.41
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
*****					
*****					
36 (1-Apr to 30-Nov)	140 X 100% X (244/365)				93.59



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**Illustration-6: In case of early commissioning of Project**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-Jul-2019	25%
Element 2	38	1-Oct-2019	1-Jul-2019	75%

Tariff Payment to be paid as:

Transmission Charges for Element 1		Transmission Charges for Element 2	
1-July-19 to 31-Mar-20	140 X 100% X (274/365)		105.09
2	140 X 100% X 1		140
3	140 X 100% X 1		140
4	140 X 100% X 1		140
5	140 X 100% X 1		140
.....			
.....			
36 (1-Apr to 30-Jun)	140 X 100% X (91/365)		34.91

**Illustration-7: In case of early commissioning of an element**Quoted Transmission Charges: **Rs. 140 Million**

Completion Schedule:

Element No.	Completion Schedule in Months	Scheduled CoD of the Element	Actual CoD of the Element	% Charges recoverable on Scheduled CoD of the Element
Element 1	38	1-Oct-2019	1-Apr-2019	25%
Element 2	38	1-Jul-2019	1-Jul-2019	75%

Tariff Payment to be paid as:



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Transmission Charges for Element 1			Transmission Charges for Element 2		
1-Apr-2019 to 30-Jun-19	140 X 25% X (91/365)	8.72	1-Apr-2019 to 30-Jun-19	--	0.00
1-July-19 to 31-Mar-20	140 X 100% X (274/ 365)				105.09
2	140 X 100% X 1				140
3	140 X 100% X 1				140
4	140 X 100% X 1				140
5	140 X 100% X 1				140
*****					
*****					
36 (1-Apr-30-Jun)	140 X 100% X (91/365)				34.91

The Transmission Charges shall be payable on monthly basis as computed above.

## 1.2 Computation of Monthly Transmission Charges

The Monthly Transmission Charges for any month m in a Contract Year n shall be calculated as below:

For AC System:

- a. If Actual Transmission System Availability for the month m of contract year n is greater than or equal to 98% and less than or equal to 98.5%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * 1$$

- a. If Actual Transmission System Availability for the month m of contract year n exceeds 98.5% and less than or equal to 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98.5\%)$$

- c. If Actual Transmission System Availability for the month m of contract year n is greater than 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (99.75\% / 98.5\%)$$

- d. If Actual Transmission System Availability for the month m of contract year n is less than 98% and greater than or equal to 95.00%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98\%)$$

- e. If Actual Transmission System Availability for the month m of contract year falls below 95%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98\%) - 0.02 * (T_{mn} * (AA / 95\%))$$



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For DC System:

- a. If Actual Transmission System Availability for the month m of contract year n is greater than or equal to 95% and less than or equal to 96%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * 1$$

- b. If Actual Transmission System Availability for the month m of contract year n exceeds 96% and less than or equal to 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA/ 96\%)$$

- c. If Actual Transmission System Availability for the month m of contract year n is greater than 99.75%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (99.75\% / 96\%)$$

- d. If Actual Transmission System Availability for the month m of contract year n is less than 95% and greater than or equal to 92.00%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA/ 95\%)$$

- e. If Actual Transmission System Availability for the month m of contract year falls below 92%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA/ 95\%) - 0.02 * (T_{mn} * (AA/ 92\%))$$

where:

- AA is the actual Availability, as certified by RPC, as per procedure provided in Schedule 6.
- m is the month in Contract Year 'n'
- $T_{mn}$  = Transmission Charges for the month 'm' in Contract Year 'n' = (Transmission Charge/ no. of days in the Year n)\* no. of days in month m

Provided, no Transmission Charges shall be paid during the period for which the RLDC has not allowed the operation of the Element/Project due to the failure of the TSP to operate it as per the provisions of the Grid Code.

### 1.3 RLDC Fee & Charges

The payment of RLDC fee & charges, in accordance with relevant regulations of CERC, shall be the responsibility of the TSP.



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**Schedule: 5****Quoted Transmission Charges**

[Quoted Transmission Charges from Annexure - 21 of the RFP of the Selected Bidder to be inserted here]

[To be incorporated from the Bid of the Selected Bidder submitted during the e-reverse auction after its selection]

**Quoted Transmission Charges: Rs. 625.88 Million**

**.Proportionate Transmission Charges payable for each Element of the Project:**

Sonos.	Name of the Transmission Element	Scheduled COD	Percentage of Quoted Transmission Charges recoverable on Scheduled COD of the Element of the Project	Element(s) which are pre-required for declaring the commercial operation (COD) of the respective Element
1	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVar, 765 kV & 1x125 MVar, 420 kV bus reactor	24 months from date of SPV transfer.	100%	All Elements are required to be commissioned simultaneously as their utilization is dependent on commissioning of each other.
2	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)			

**Note :**

The payment of Transmission Charges for any Element, irrespective of its successful commissioning on or before its Scheduled COD, shall only be considered after successful commissioning of the Element(s), which are pre-required for declaring the commercial operation of such Element as mentioned in the above table.

Scheduled COD for the Project is: 24 months from the date of SPV transfer.

**[Note: List of Element(s) along with the critical Element(s) to be provided by CEA]**



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**Schedule: 6****Appendix II of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2019****Procedure for Calculation of Transmission System Availability Factor for a Month**

1. Transmission system availability factor for nth calendar month ("TAF<sub>Pn</sub>") shall be calculated by the respective transmission licensee, got verified by the concerned Regional Load Dispatch Centre (RLDC) and certified by the Member-Secretary, Regional Power Committee of the region concerned, separately for each AC and HVDC transmission system and grouped according to sharing of transmission charges. In case of AC system, transmission System Availability shall be calculated separately for each Regional Transmission System and inter-regional transmission system. In case of HVDC system, transmission System Availability shall be calculated on consolidate basis for all inter-state HVDC system.
2. Transmission system availability factor for nth calendar month ("TAF<sub>Pn</sub>") shall be calculated by consider following:
  - i) **AC transmission lines:** Each circuit of AC transmission line shall be considered as one element;
  - ii) **Inter-Connecting Transformers (ICTs):** Each ICT bank (three single phase transformer together) shall form one element;
  - iii) **Static VAR Compensator (SVC):** SVC along with SVC transformer shall form one element;
  - iv) **Bus Reactors or Switchable line reactors:** Each Bus Reactors or Switchable line reactors shall be considered as one element;
  - v) **HVDC Bi-pole links:** Each pole of HVDC link along with associated equipment at both ends shall be considered as one element;
  - vi) **HVDC back-to-back station:** Each block of HVDC back-to-back station shall be considered as one element. If associated AC line (necessary for transfer of inter- regional power through HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered as unavailable;
  - vii) **Static Synchronous Compensation ("STATCOM"):** Each STATCOM shall be considered as separate element.
3. The Availability of AC and HVDC portion of Transmission system shall be calculated by considering each category of transmission elements as under:



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**TAFMn (in %) for AC system:**

$$= \frac{o \times AV_o + (p \times AV_p) + (q \times AV_q) + (r \times AV_r) + (u \times AV_u)}{(o + p + q + r + u)} \times 100$$

Where,

- o = Total number of AC lines.  
 AV<sub>o</sub> = Availability of o number of AC lines.  
 p = Total number of bus reactors/switchable line reactors  
 AV<sub>p</sub> = Availability of p number of bus reactors/switchable line reactors  
 q = Total number of ICTs.  
 AV<sub>q</sub> = Availability of q number of ICTs.  
 r = Total number of SVCs.  
 AV<sub>r</sub> = Availability of r number of SVCs  
 u = Total number of STATCOM.  
 AV<sub>u</sub> = Availability of u number of STATCOMs

**TAFMn (in %) for HVDC System:**

$$= \frac{\sum_{x=1}^s Cx_{bp}(\text{act}) \times AV_{x_{bp}} + \sum_{y=1}^t Cy(\text{act})_{btb} \times AV_{y_{btb}}}{\sum_{x=1}^s Cx_{bp} + \sum_{y=1}^t Cy_{btb}} \times 100$$

Where

- Cx<sub>bp</sub>(act) = Total actual operated capacity of x<sup>th</sup> HVDC pole  
 Cx<sub>bp</sub> = Total rated capacity of x<sup>th</sup> HVDC pole



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AVx <sub>bp</sub>	=	Availability of x <sup>th</sup> HVDC pole
Cybtb(act)	=	Total actual operated capacity of y <sup>th</sup> HVDC back-to-back station block
Cybtb	=	Total rated capacity of y <sup>th</sup> HVDC back-to-back station block
AVybtb	=	Availability of y <sup>th</sup> HVDC back-to-back station block
s	=	Total no of HVDC poles
t	=	Total no of HVDC Back to Back blocks

4. The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category. The formulae for calculation of Availability of each category of the transmission elements are as per **Appendix-III**. The weightage factor for each category of transmission elements shall be considered as under:

- For each circuit of AC line – Number of sub-conductors in the line multiplied by ckt-km;
- For each HVDC pole- The rated MW capacity x ckt-km;
- For each ICT bank – The rated MVA capacity;
- For SVC- The rated MVAR capacity (inductive and capacitive);
- For Bus Reactor/switchable line reactors – The rated MVAR capacity;
- For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block; and
- For STATCOM – Total rated MVAR Capacity.

5. The transmission elements under outage due to following reasons shall be deemed to be available:

- Shut down availed for maintenance of another transmission scheme or construction of new element or renovation/upgradation/additional capitalization in existing system approved by the Commission. If the other transmission scheme belongs to the transmission licensee, the Member Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved. In case of dispute regarding deemed availability, the matter may be referred to Chairperson, CEA within 30 days.

- Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of concerned RLDC.

6. For the following contingencies, outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under period of consideration for the following contingencies:

- Outage of elements due to acts of God and force majeure events beyond the control of the transmission licensee. However, whether the same outage is due to force majeure (not



## Transmission Service Agreement

design failure) will be verified by the Member Secretary, RPC. A reasonable restoration time for the element shall be considered by Member Secretary, RPC and any additional time taken by the transmission licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the transmission licensee. Member Secretary, RPC may consult the transmission licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available;

- ii) Outage caused by grid incident/disturbance not attributable to the transmission licensee, e.g. faults in substation or bays owned by other agency causing outage of the transmission licensee's elements, and tripping of lines, ICTs, HVDC, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from RLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of RLDC's direction for restoration;

Provided that in case of any disagreement with the transmission licensee regarding reason for outage, same may be referred to Chairperson, CEA within 30 days. The above need to be resolved within two months:

Provided further that where there is a difficulty or delay beyond sixty days, from the incidence in finalizing the recommendation, the Member Secretary of concerned RPC shall allow the outage hours on provisional basis till the final view.

7. Time frame for certification of transmission system availability: (1) Following schedule shall be followed for certification of availability by Member Secretary of concerned RPC:

- Submission of outage data by Transmission Licensees to RLDC/ constituents
  - By 5th of the following month;
- Review of the outage data by RLDC / constituents and forward the same to respective RPC – by 20th of the month;
- Issue of availability certificate by respective RPC – by 3rd of the next month.



Central Transmission Utility of India Limited



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## Transmission Service Agreement

## Appendix-III

## FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

For AC transmission system

$$AV_o(\text{Availability of } o \text{ no. of AC lines}) = \frac{\sum_{i=1}^o W_i(T_i - TNA_i)/T_i}{\sum_{i=1}^o W_i}$$

$$AV_q(\text{Availability of } q \text{ no. of ICTs}) = \frac{\sum_{k=1}^q W_k(T_k - TNA_k)/T_k}{\sum_{k=1}^q W_k}$$

$$AV_r(\text{Availability of } r \text{ no. of SVCs}) = \frac{\sum_{l=1}^r W_l(T_l - TNA_l)/T_l}{\sum_{l=1}^r W_l}$$

$$AV_p(\text{Availability of } p \text{ no. of Switched Bus reactors}) = \frac{\sum_{m=1}^p W_m(T_m - TNA_m)/T_m}{\sum_{m=1}^p W_m}$$

$$AV_u(\text{Availability of } u \text{ no. of STATCOMs}) = \frac{\sum_{n=1}^u W_n(T_n - TNA_n)/T_n}{\sum_{n=1}^u W_n}$$

$$AV_{xpb}(\text{Availability of an individual HVDC pole}) = \frac{(T_x - TNA_x)}{T_x}$$

$$AV_{ybtb}(\text{Availability of an individual HVDC Back-to-back Blocks}) = \frac{(T_y - TNA_y)}{T_y}$$

For HVDC transmission system

For the new HVDC commissioned but not completed twelve months;

For first 12 months:  $[(AV_{xpb} \text{ or } AV_{ybtb}) \times 95\% / 85\%]$ , subject to ceiling of 95%.

Where,

- o = Total number of AC lines;  
 AV<sub>o</sub> = Availability of o number of AC lines;  
 p = Total number of bus reactors/switchable line reactors;  
 AV<sub>p</sub> = Availability of p number of bus reactors/switchable line reactors;  
 q = Total number of ICTs;  
 AV<sub>q</sub> = Availability of q number of ICTs;  
 r = Total number of SVCs;  
 AV<sub>r</sub> = Availability of r number of SVCs;  
 U = Total number of STATCOM;





## Transmission Service Agreement

$AV_u$	=	Availability of $u$ number of STATCOMs;
$W_i$	=	Weightage factor for $i$ th transmission line;
$W_k$	=	Weightage factor for $k$ th ICT;
$W_l$	=	Weightage factors for inductive & capacitive operation of $l$ th SVC;
$W_m$	=	Weightage factor for $m$ th bus reactor;
$W_n$	=	Weightage factor for $n$ th STATCOM.
$T_i, , T_k, T_l, , -$ $T_m, T_n, T_x, T_y$		The total hours of $i$ th AC line, $k$ th ICT, $l$ th SVC, $m$ th Switched Bus Reactor & $n$ th STATCOM, $x$ th HVDC pole, $y$ th HVDC back-to-back blocks during the period under consideration (excluding time period for outages not attributable to transmission licensee for reasons given in Para 5 of the procedure)
$T_{NAi}, T_{NAk} -$ $T_{NAl}, T_{NAm},$ $T_{NAn}, T_{NAx}, T_{NAy}$		The non-availability hours (excluding the time period for outages not attributable to transmission licensee taken as deemed availability as per Para 5 of the procedure) for $i$ th AC line, $k$ th ICT, $l$ th SVC, $m$ th Switched Bus Reactor, $n$ th STATCOM, $x$ th HVDC pole and $y$ th HVDC back-to-back block.



Central Transmission Utility of India Limited



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February 2024

## Transmission Service Agreement

**Schedule: 7**

**Entire Bid (both financial bid and technical bid) of the Selected Bidder to be attached here**

*Bid dtd. 28.11.2023 shall be a part of this Agreement.*



Central Transmission Utility of India Limited



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February 2024

## Transmission Service Agreement

**Schedule: 8****Contract Performance Guarantee**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign entities submitting Bids are required to follow the applicable law in their country.)**

In consideration of the .....[Insert name of the SPV or Selected Bidder on behalf of the TSP, or Lead Member in case of the Consortium, with address] agreeing to undertake the obligations under the Transmission Service Agreement dated .....and the other RFP Project Documents and the Nodal Agency and the .....[Insert the name of the BPC], agreeing to execute the *RFP Project Documents* with the Selected Bidder, regarding setting up the Project, the ..... [Insert name and address of the bank issuing the guarantee and address of the head office] (hereinafter referred to as "Guarantor Bank") hereby agrees unequivocally, irrevocably and unconditionally to pay to ..... (being the Nodal Agency) at .....[Insert the Place from the address of the Nodal Agency indicated in the TSA] forthwith on demand in writing from the Nodal Agency or any Officer authorized by it in this behalf, any amount up to and not exceeding Rupees ..... Crores (Rs. ....) only [Insert the amount of the bank guarantee] on behalf of M/s. .... [Insert name of the Selected Bidder or SPV].

This guarantee shall be valid and binding on the Guarantor Bank up to and including .....and shall not be terminable by notice or any change in the constitution of the Bank or the term of the Transmission Service Agreement or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rs. .... Crores (Rs. ....) only. Our Guarantee shall remain in force until ..... [Insert the date of validity of the Guarantee as per Article 3.1.2 of this Agreement]. The Nodal Agency, shall be entitled to invoke this Guarantee up to three hundred sixty five (365) days of the last date of the validity of this Guarantee.

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand from ..... (in its role as the Nodal Agency),



Central Transmission Utility of India Limited



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February 2024

## Transmission Service Agreement

made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to Nodal Agency.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by ..... [Insert name of the Selected Bidder], ..... [Insert name of the TSP] and / or any other person. The Guarantor Bank shall not require Nodal Agency to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against Nodal Agency in respect of any payment made hereunder.

**THIS BANK GUARANTEE** shall be interpreted in accordance with the laws of India.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

**THIS BANK GUARANTEE** shall not be affected in any manner by reason of merger, amalgamation, restructuring, liquidation, winding up, dissolution or any other change in the constitution of the Guarantor Bank.

**THIS BANK GUARANTEE** shall be a primary obligation of the Guarantor Bank and accordingly Nodal Agency shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against ..... [Insert the name of SPV] or the Selected Bidder, as the case may be, to make any claim against or any demand on ..... [Insert the name of SPV] or the Selected Bidder, as the case may be, or to give any notice to ..... [Insert the name of SPV] or the Selected Bidder, as the case may be, or to enforce any security held by the Nodal Agency or to exercise, levy or enforce any distress, diligence or other process against ..... [Insert the name of SPV] or the Selected Bidder, as the case may be.

The Guarantor Bank acknowledges that this BANK GUARANTEE is not personal to Nodal Agency and may be assigned, in whole or in part, (whether absolutely or by way of security) by Nodal Agency to any entity to whom the Nodal Agency is entitled to assign its rights and obligations under the Transmission Service Agreement.

The Guarantor Bank hereby agrees and acknowledges that Nodal Agency shall have a right to invoke this Bank Guarantee either in part or in full, as it may deem fit.

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. .... Crores (Rs. ....) only and it shall remain in force until ..... [Date to be inserted on the basis of Article 3.1.2 of the Transmission Service Agreement], with an additional claim period of three hundred sixty five (365) days thereafter. This BANK GUARANTEE shall be



Central Transmission Utility of India Limited

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February 2024

## Transmission Service Agreement

extended from time to time for such period, as may be desired by ..... [Insert name of the Selected Bidder or Lead Member in case of the Consortium or SPV]. We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Nodal Agency serves upon us a written claim or demand.

**In witness where of:**

Signature .....

Name: .....

Power of attorney No.: .....

**For:**

..... [Insert Name of the Bank]

**Banker's Seal and Full Address, including mailing address of the Head Office**



Central Transmission Utility of India Limited



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February 2024



**Schedule: 9****Methodology for determining the Relief Under Force Majeure Event & Change in Law during Construction Period**

The relief in the form of revision in tariff due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days and/ or Change in Law during the construction period shall be as under:

$$\Delta T = [(P \times d)] \div [1 - (1 + d)^{-n}]$$

Where,

$\Delta T$  = Change in Transmission Charges for each year

$P$  = Sum of cumulative increase or decrease in the cost of the Project due to Change in Law and interest cost during construction corresponding to the period exceeding one hundred eighty (180) due to Force Majeure Event leading to extension of Scheduled COD for a period beyond one hundred eighty (180) days

$n$  = number of years over which the Transmission Charges has to be paid

$d$  = Discount rate as notified by the CERC, applicable on the Bid Deadline

The increase in Transmission Charges as stated above shall be applicable only if the value of increase in Transmission Charges as calculated above exceeds 0.30% (zero point three percent) of the quoted Transmission Charges of the TSP.



Central Transmission Utility of India Limited



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February 2024

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**SHARE PURCHASE AGREEMENT**

**BETWEEN**

**REC POWER DEVELOPMENT AND CONSULTANCY LIMITED**

**AND**

**ISHANAGAR POWER TRANSMISSION LIMITED**

**AND**

**INDIGRID 2 LIMITED**

**AND**

**INDIGRID 1 LIMITED**

---

**Dated: 09<sup>th</sup> February, 2024**

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सत्यमेव जयते

Share Purchase Agreement – Ishanagar Power Transmission Limited

734

## INDIA NON JUDICIAL

### Government of National Capital Territory of Delhi

₹500

#### e-Stamp

Certificate No.	: IN-DL28267721498190W
Certificate Issued Date	: 16-Jan-2024 01:10 PM
Account Reference	: IMPACC (IV)/ dl775803/ DELHI/ DL-DLH
Unique Doc. Reference	: SUBIN-DL77580319153839213918W
Purchased by	: ISHANAGAR POWER TRANSMISSION LIMITED
Description of Document	: Article 5 General Agreement
Property Description	: CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DELHI-110003
Consideration Price (Rs.)	: 0 (Zero)
First Party	: ISHANAGAR POWER TRANSMISSION LIMITED
Second Party	: Not Applicable
Stamp Duty Paid By	: ISHANAGAR POWER TRANSMISSION LIMITED
Stamp Duty Amount(Rs.)	: 500 (Five Hundred only)



Please write or type below this line

IN-DL28267721498190W

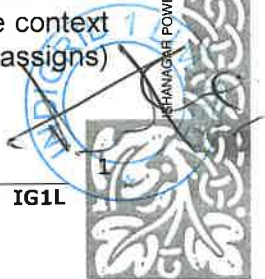
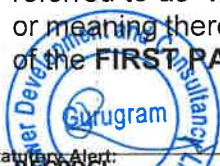
### SHARE PURCHASE AGREEMENT

This **SHARE PURCHASE AGREEMENT** ('Agreement') made on the <sup>9<sup>th</sup></sup> day of February, 2024 at New Delhi by and between:

**REC POWER DEVELOPMENT AND CONSULTANCY LIMITED**, a company incorporated under the Companies Act, 1956, vide CIN-U40101DL2007GOI165779 having its registered office at Core 4, SCOPE Complex, 7, Lodhi Road, New Delhi 110 003, India (hereinafter referred to as "**REC PDCL**", which expression shall, unless it be repugnant to the context or meaning thereof, be deemed to mean and include its successors and permitted assigns) of the **FIRST PART**;

#### Stamp Duty Alert:

1. The authenticity of this Stamp certificate should be verified at 'www.shclstamp.com' or using e-Stamp Mobile App or Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.







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## Government of National Capital Territory of Delhi

₹500

## e-Stamp

Certificate No. : IN-DL28265876908782W  
Certificate Issued Date : 16-Jan-2024 01:09 PM  
Account Reference : IMPACC (IV)/ dl775803/ DELHI/ DL-DLH  
Unique Doc. Reference : SUBIN-DL77580319155955208240W  
Purchased by : ISHANAGAR POWER TRANSMISSION LIMITED  
Description of Document : Article 5 General Agreement  
Property Description : CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DELHI-110003  
Consideration Price (Rs.) : 0  
(Zero)  
First Party : ISHANAGAR POWER TRANSMISSION LIMITED  
Second Party : Not Applicable  
Stamp Duty Paid By : ISHANAGAR POWER TRANSMISSION LIMITED  
Stamp Duty Amount(Rs.) : 500  
(Five Hundred only)



Please write or type below this line

IN-DL28265876908782W

## AND

**ISHANAGAR POWER TRANSMISSION LIMITED** a company incorporated under the Companies Act, 2013 vide CIN- U42202DL2023GOI415540, having its registered office at Core 4, SCOPE Complex, 7, Lodhi Road, New Delhi 110003, India (herein after referred to as "**Company**" which expression shall, unless repugnant to the context, mean and include its successors in interest) of the **SECOND PART**; and



1. The authenticity of this Stamp certificate should be verified at 'www.shcilestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.



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## Government of National Capital Territory of Delhi

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 Certificate Issued Date : 16-Jan-2024 01:07 PM  
 Account Reference : IMPACC (IV)/ dl775803/ DELHI/ DL-DLH  
 Unique Doc. Reference : SUBIN-DL77580319160122719554W  
 Purchased by : ISHANAGAR POWER TRANSMISSION LIMITED  
 Description of Document : Article 5 General Agreement  
 Property Description : CORE-4, SCOPE COMPLEX, 7, LODHI ROAD, NEW DELHI-110003  
 Consideration Price (Rs.) : 0  
 (Zero)  
 First Party : ISHANAGAR POWER TRANSMISSION LIMITED  
 Second Party : Not Applicable  
 Stamp Duty Paid By : ISHANAGAR POWER TRANSMISSION LIMITED  
 Stamp Duty Amount(Rs.) : 200  
 (Two Hundred only)



Please write or type below this line

IN-DL28263905915547W

AND

**INDIGRID 2 LIMITED**, a company incorporated under the Companies Act, 2013  
 vide CIN- U29130MH2014PLC353042 and having its registered office at **Unit No.  
 101, 1<sup>st</sup> Floor, Windsor, Village Kolekalyan, Off CST road, Vidyanagari Marg,  
 Santacruz (East), Mumbai – 400098, Maharashtra, India**

AND



## Statutory Alert:

1. The authenticity of this Stamp certificate should be verified at 'www.ishanagarpower.com' or using e-Stamp Mobile App or Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

IG1L



**INDIGRID 1 LIMITED**, a company incorporated under the Companies Act, 1956 vide CIN- U74999MH2005PLC153211 and having its registered office at **UNIT No. 101, 1<sup>st</sup> Floor, Windsor, Village Kolekalyan, Off CST road, Vidyanagari Marg, Santacruz (East), Mumbai – 400098, Maharashtra, India** (hereinafter individually referred to as “**Partner 1**” and “**Partner 2**” respectively and collectively referred to as “**Selected Bidder**” which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors and permitted assigns) of the **THIRD PART**

#### WHEREAS:

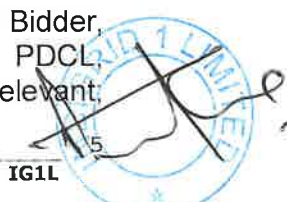
- A. The Government of India, Ministry of Power, vide its notification no. 1644 [ F. No. 15/3/2018-Trans-Pt(1)] dated 13<sup>th</sup> April, 2023 has notified REC Power Development and Consultancy Limited to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish Transmission System for “**Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C**” through tariff based competitive bidding process (hereinafter referred to as the “Project”).
- B. In accordance with the Bidding Guidelines, the BPC had initiated a competitive bidding process through issue of RFP for selecting a Successful Bidder to build, own, operate and transfer the Project comprising of the Elements mentioned in **Schedule 2** of the TSA. BPC had initiated this process in accordance with and on the terms and conditions mentioned in the RFP Project Documents (as defined hereinafter).
- C. BPC has incorporated the Company and has undertaken the preliminary studies, obtained certain approvals, etc. regarding the Project on behalf of the Company
- D. REC PDCL along with the Nominees hold one hundred per cent (100%) of the total issued and paid up equity share capital of the Company.
- E. Pursuant to the said Bid Process, IndiGrid 2 Limited (Lead Member with 30% equity contribution) and IndiGrid 1 Limited (Other Member with 70% equity contribution) - Consortium has been identified as the Selected Bidder vide Letter of Intent dated 29<sup>th</sup> December 2023 issued by the BPC in favour of the Selected Bidder.
- F. As envisaged in the RFP, the Shares Seller (as defined hereinafter) has agreed to sell the Sale Shares (as defined hereinafter) to the Selected Bidder and the Selected Bidder has agreed to purchase the Sale Shares from the Shares Seller, subject to and on the terms and conditions set forth in this Agreement.

**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL COVENANTS AND AGREEMENTS SET FORTH IN THIS AGREEMENT AND FOR OTHER GOOD AND VALUABLE CONSIDERATION, THE PARTIES HEREBY AGREE AS FOLLOWS:**



## 1. DEFINITIONS

- 1.1 Capitalised terms in this Agreement, unless defined in this Agreement shall, in so far as the context admits, have the same meaning in this Agreement as has been ascribed to them in the TSA.
- 1.2 Additionally, the following terms shall have the meaning hereinafter respectively assigned to them herein below:
- (i) **“Acquisition Price”** shall mean INR 7,70,84,852 (Rupees Seven Crore Seventy Lakhs Eighty-Four Thousand Eight Hundred Fifty-Two Only), which is the aggregate consideration payable by the Selected Bidder towards purchase of the Sale Shares at par and for taking over of all assets and liabilities of the Company as on the Closing Date subject to adjustment as per the audited accounts of the Company as on the Closing Date;
  - (ii) **“Agreement”** or **“the Agreement”** or **“this Agreement”** shall mean this Share Purchase Agreement and shall include the recitals and/or annexures attached hereto, and the contracts, certificates, disclosures and other documents to be executed and delivered pursuant hereto, if any, and any amendments made to this Agreement by the Parties in writing;
  - (iii) **“Bid Process”** shall mean the competitive bidding process initiated by the BPC, by issuance of RFP for selecting a Successful Bidder to build, own, operate and transfer the Project in accordance with and on the terms and conditions mentioned in the RFP Project Documents;
  - (iv) **“Board”** shall mean the board of directors of the Company;
  - (v) **“Closing Date”** shall mean a mutually agreed date between the Parties falling within the period as mentioned in clause 2.15.2 of RFP or on failure of such mutual agreement between the Parties shall be the date falling on the last date of such period;
  - (vi) **“Encumbrance”** shall mean any mortgage, pledge, lien, charge, security assignment, hypothecation, trust, encumbrance or any other agreement having the effect of creating security interest;
  - (vii) **“Letter of Intent”** shall have the meaning ascribed thereto under the Bid Documents;
  - (viii) **“Nominees”** shall mean the Persons, who are named in Annexure A of this Agreement, holding the Sale Shares as nominees of REC PDCL;
  - (ix) **“Party”** shall mean REC PDCL, Company and the Selected Bidder, referred to individually, and **“Parties”** shall mean REC PDCL, Company and the Selected Bidder collectively referred to, as relevant;



- (x) **“Person”** shall include an individual, an association, a corporation, a partnership, a joint venture, a trust, an unincorporated organisation, a joint stock company or other entity or organisation, including a government or political subdivision, or an agency or instrumentality thereof, and/or any other legal entity;
- (xi) **“RFP Project Documents”** shall mean the following documents, referred to collectively:
- a. Transmission Service Agreement; and
  - b. this Agreement.
- (xii) **“Representations and Warranties”** shall mean the representations and warranties mentioned in Clause 4 hereto;
- (xiii) **“RoC”** shall mean the Registrar of Companies;
- (xiv) **“Sale Shares”** shall mean 50,000 shares, representing one hundred percent (100%) of the total issued, subscribed and fully paid-up equity share capital of the Company held by the Shares Seller and Nominees as more particularly described in Annexure A attached hereto;
- (xv) **“Shares”** shall mean the fully paid-up equity shares of Company, of face value Rs. 10 each;
- (xvi) **“Shares Seller”** shall mean REC PDCL; and
- (xvii) **“Transmission Service Agreement”** or **“TSA”** means the agreement titled ‘Transmission Service Agreement’ to be executed on 09<sup>th</sup> February, 2024 between Central Transmission Utility of India Limited (CTUIL) and Ishanagar Power Transmission Limited, pursuant to which the TSP shall build, own, operate and transfer the Project and make available the assets of the Project on a commercial basis.

### 1.3 Interpretation Clause

Unless the context otherwise requires, the provisions of the TSA relating to the interpretation of the TSA shall apply to this Agreement as if they were set out in full in this Agreement and to this end are incorporated herein by reference.



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## 2. TRANSFER OF SHARES

- 2.1 Subject to the terms and conditions of this Agreement, the Shares Seller agrees to sell and transfer to the Selected Bidder and the Selected Bidder hereby agrees to purchase from the Shares Seller, the Sale Shares free from Encumbrances together with all assets and liabilities of the Company with rights and benefits attached thereto in consideration of the Acquisition Price and the covenants, undertakings and the agreements of the Selected Bidder contained in this Agreement. The proportion of transfer of Sale Shares to the Selected Bidder shall be as Annexure B of this Agreement.
- 2.2 The Shares Seller hereby undertakes to cause the Nominees to transfer part of the Sale Shares held by them as nominees of the Shares Seller to the Nominees of Selected Bidder and execute any documents required to deliver good title to the Sale Shares to the Selected Bidder.

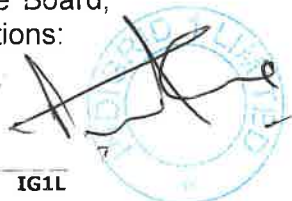
## 3. CLOSING

- 3.1 Prior to the Closing Date, the Selected Bidder shall provide to the Shares Seller, valid share transfer forms duly stamped with requisite amount of stamp duty payable on the transfer of the Sale Shares ("**Share Transfer Forms**").
- 3.2 On the Closing Date, the Shares Seller shall hand over to the Selected Bidder or its authorised representative, the original share certificates representing the Sale Shares ("**Sale Share Certificates**") executed by the Shares Seller and the Nominees, simultaneously against the Selected Bidder handing over to the Shares Seller, demand drafts drawn in favour of the Shares Seller or by confirmation of RTGS transfer in favour of the Shares Seller, for the Acquisition Price payable to it.

Provided that prior to the handing over of the Sale Share Certificates to the Selected Bidder as mentioned above, the Selected Bidder shall provide satisfactory evidence to REC PDCL that on the Closing Date, the Selected Bidder has furnished the Contract Performance Guarantee to Central Transmission Utility of India Limited (CTUIL) and is in a position to comply with all other requirements of Clause 2.15.2 of the RFP.

- 3.3 The Selected Bidder shall immediately upon receiving the Sale Share Certificates and the Share Transfer Forms, duly execute the Share Transfer Forms and duly lodge the Share Transfer Forms and the Share Certificates with the Company along with the names of its nominees to be appointed on the Board of the Company and the address within the jurisdiction of the RoC of New Delhi and Haryana, which would be the new registered office of the Company. The Company shall, upon receipt of the said documents from the Selected Bidder, do the following:

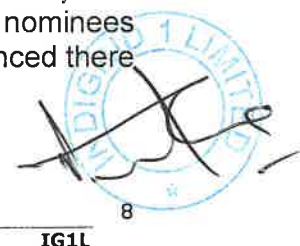
- (i) Immediately on the Closing Date convene a meeting of the Board, wherein the Board shall pass the following necessary resolutions:



- (a) approving the transfer of the Shares constituting the Sale Shares from the Shares Seller and the Nominees to the name of the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees and transfer of all assets and liabilities of the Company as on Closing Date;
- (b) approving the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees as the members of the Company and entering the name of the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees in the register of members.
- (c) changing the address of the registered office of the Company to the new address as provided by the Selected Bidder as per clause 3.3 above.
- (d) appointing the nominees of the Selected Bidder on the Board and accepting the resignations of the other existing Directors on the Board and the Chair of the meeting which was taken by one of the existing Directors shall be vacated and appointment of a new Chairman who shall be one of the newly appointed Director, for the rest of the meeting.

Immediately pursuant to the acceptance of resignation of the existing Directors and appointment of new Chairman, the newly constituted Board of Directors shall continue with the meeting and pass the following resolution:

- (e) terminating all the authorizations granted regarding the business and/or operations of the Company or the operations of the bank accounts of the Company, with prospective effect; and
  - (f) acknowledging and accepting the terms and conditions as contained in the executed copies of the RFP Project Documents and to abide by the provisions contained therein.
- (ii) Enter the name of the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees as the legal and beneficial owner of the Sale Shares, free of all Encumbrances, in the register of members of the Company;
  - (iii) Make the necessary endorsements on the Sale Share Certificates, indicating the name of the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees as the legal and beneficial owner of the Sale Shares evidenced there under;



- (iv) Return the original Sale Share Certificates, duly endorsed in the name of the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees, to the **IndiGrid 2 Limited (Lead Member) and IndiGrid 1 Limited (Other Member) - Consortium** and its nominees, as the case may be or its authorized representative;
- (v) Handover all the statutory registers and records, if any, of the Company to the Selected Bidder.
- (vi) Handover certified true copies of the Board resolution passed by the Company as per (i) (a) to (i) (f) of Clause 3.3 (i) to the Central Transmission Utility of India Limited (CTUIL).

3.4 The Parties to this Agreement agree to take all measures that may be required to ensure that all the events contemplated in the **Clauses 3.1 to 3.3** above on the Closing Date are completed on the same day.

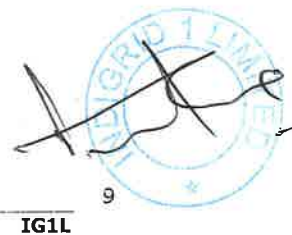
Notwithstanding the provisions of **Clause 3.3** hereto, all proceedings to be taken and all documents to be executed and delivered by the Parties at the Closing Date shall be deemed to have been taken and executed simultaneously and no proceedings shall be deemed to have been taken nor documents executed or delivered until all have been taken, executed and delivered.

3.5 The Selected Bidder hereby acknowledges and agrees that after the date of acquisition of one hundred percent (100%) of the Shares of the Company by the Selected Bidder as per Clause 3.3, (a) the authority of the BPC in respect of the Bid Process shall forthwith cease and any actions to be taken thereafter regarding the Bid Process will be undertaken by the Central Transmission Utility of India Limited (CTUIL) themselves, (b) all rights and obligations of the BPC shall cease forthwith, (c) all other rights and obligations of the Company shall be of the TSP and (d) any decisions taken by the BPC on behalf of the Company prior to the date of acquisition, shall continue to be binding on the Company and/or Central Transmission Utility of India Limited (CTUIL) as the case may be.

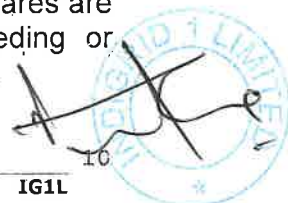
3.6 This Agreement shall be effective from the date of its signing by the Parties and shall remain in force until all the obligations of the respective Parties under Clause 3.3 hereto are fulfilled.

#### 4. REPRESENTATIONS AND WARRANTIES

4.1 The Selected Bidder hereby represents and warrants to the Shares Seller that:



- 4.1.1 The Selected Bidder has full legal right, power and authority to enter into, execute and deliver this Agreement and to perform the obligations, undertakings and transactions set forth herein, and this Agreement has been duly and validly executed and delivered by the Selected Bidder and constitutes its legal, valid and binding obligations, enforceable against it in accordance with its terms;
- 4.1.2 The execution, delivery and performance of this Agreement by the Selected Bidder will not violate or contravene any provision of the Memorandum of Association or Articles of the Selected Bidder, (ii) will not violate or contravene any law, statute, rule, regulation, licensing requirement, order, writ, injunction or decree of any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority by which the Selected Bidder is bound or by which any of its and/or their properties or assets are bound, and (iii) except to the extent that the same have been duly and properly completed or obtained, will not require any filing with, or permit, consent or approval of or license from, or the giving of any notice to, any court, governmental instrumentality or other regulatory, governmental or public body, agency or authority, joint venture party, or any other entity or person whatsoever; and
- 4.1.3 The Selected Bidder is not restricted in any manner whatsoever, including without limitation, on account of any judicial or governmental order, action or proceeding, or any contractual obligation assumed by the Selected Bidder, from purchasing the Sale Shares from the Shares Seller in the manner provided for in this Agreement.
- 4.2 The Shares Seller hereby represents and warrants to the Selected Bidder that;
- 4.2.1 The Shares Seller and the Nominees are the legal and beneficial owners of the Sale Shares, free and clear of any Encumbrance and the delivery to the Selected Bidder of the Sale Shares pursuant to the provisions of this Agreement will transfer to the Selected Bidder a good title to the Sale Shares.
- 4.2.2 The Shares Seller has full legal right, power and authority to enter into, execute and deliver this Agreement and to perform the obligations, undertakings and transactions set forth herein. The execution, delivery and performance of this Agreement will not violate the Memorandum and Articles of Association of the Shares Seller or contravene any contract by which it is bound.
- 4.2.3 The Shares Seller has obtained requisite authorizations to sell and transfer the Sale Shares to the Selected Bidder. The Shares Seller also represent that it is not prevented from transferring and selling the Sale Shares. Also, to the best of its knowledge, the Sale Shares are not the subject matter of any claim or pending proceeding or threatened by any legal proceeding made by any third party.





- 4.3 Except as specified in Clause 4.2 above, the Shares Seller shall not be deemed to have, made any representation or warranty whatsoever, whether express or implied, in relation to the Sale Shares or Company, including but not limited to any implied warranty or representation as to the business or affairs of Company.
- 4.4 The Representations and Warranties are given as at the date of this Agreement except that where a Representation and Warranty is expressed to be made as at another date, the Representation and Warranty is given with respect to that date only.
- 4.5 Each Representation and Warranty is to be construed independently of the others and is not limited by reference to any other Warranty. The Representations, Warranties and undertakings contained in this **Clause 4** hereto or in any document delivered pursuant to or in connection with this Agreement are continuing in nature and shall survive the Closing Date for a period of one (1) year.
- 4.6 The Parties represent to each other that all Representations and Warranties provided herein by the respective Party shall be true as of Closing Date.

## 5. OBLIGATIONS OF THE SELECTED BIDDER

The Selected Bidder agrees that the Shares Seller shall not be liable in any manner, nor shall it assume any responsibility or liability whatsoever, in respect of the business of the Company and its operations or activities, arising after the Closing Date, to any Person or any authority, central, state, local or municipal or otherwise and the same shall be the sole responsibility of the Selected Bidder.

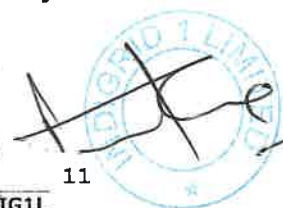
## 6. MISCELLANEOUS

### 6.1 NOTICES

- a) All notices to be given under this Agreement shall be in writing and in the English language.
- b) All notices must be delivered personally or by registered or certified mail or by recognised courier to the addresses below:

Selected Bidder: **IndiGrid 2 Limited**,  
Unit No. 101, 1<sup>st</sup> Floor, Windsor, Village  
Kolekalyan, Off CST road, Vidyanagari Marg,  
Santacruz (East), Mumbai – 400098,  
Maharashtra, India

REC PDCL: **REC Power Development and Consultancy Limited**  
Core-4, SCOPE Complex, 7, Lodhi Road,  
New Delhi-110003

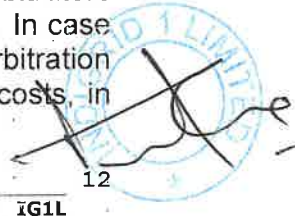


Company: **Ishanagar Power Transmission Limited**  
Core-4, SCOPE Complex, 7, Lodhi Road, New  
Delhi-110003

- c) Any Party may by notice of at least fifteen (15) days to the other Parties change the address and / or addresses to which such notices and communications to it are to be delivered or mailed.

## 6.2 RESOLUTION OF DISPUTES

- 6.2.1 If any dispute arises between the Parties, in connection with the validity, interpretation, implementation or alleged breach of any provision of this Agreement ("Dispute"), the disputing Parties hereto shall endeavor to settle such Dispute amicably. The attempt to bring about an amicable settlement shall be considered to have failed if not resolved within sixty (60) days from the date of the Dispute.
- 6.2.2 If the Parties are unable to amicably settle the Dispute in accordance with Clause 6.2.1 within the period specified therein, any of the Parties shall be entitled to within thirty (30) days after expiry of the aforesaid period, refer the Dispute to the Chief Executive Officer/Director of REC PDCL and Chief Executive/ Managing Director of the Selected Bidder for resolution of the said Dispute. The attempt to bring about such resolution shall be considered to have failed if not resolved within thirty (30) days from the date of receipt of a written notification in this regard.
- 6.2.3 In the event the Dispute is not settled in accordance with Clause 6.2.2 above, any Party to the Dispute shall be entitled to serve a notice invoking this Clause and making a reference to a sole arbitrator. If the Parties to the Dispute cannot agree as to the appointment of the sole arbitrator within thirty (30) days of receipt of the notice of the Party making the reference, then the Shares Seller along with the Company shall appoint one arbitrator and the Selected Bidder shall appoint one arbitrator and the two arbitrators, so appointed shall appoint a third arbitrator. However, after the Closing Date, in such an event the Shares Seller shall appoint one arbitrator and the Selected Bidder along with the Company shall appoint one arbitrator and the two arbitrators, so appointed shall appoint the third arbitrator.
- 6.2.4 The place of the arbitration shall be New Delhi. The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996.
- 6.2.5 The proceedings of arbitration shall be in English language.
- 6.2.6 The arbitrator's award shall be substantiated in writing. The arbitrators shall also decide on the costs of the arbitration proceedings. In case the arbitrators have not decided on the costs of the arbitration proceedings, each Party to the Dispute shall bear its own costs, in relation to the arbitration proceedings.



### 6.3 AUTHORISED PERSON

For the purposes of this Agreement, the Selected Bidder is represented by Mr. Aditya Kislay, pursuant to an authorization granted to Mr. Aditya Kislay through necessary Board resolutions. Further, Mr. Aditya Kislay is also authorized by such resolutions to take any decision which may be required to be taken, do all acts and execute all documents which are or may be required by the Selected Bidder for the proper and effective fulfillment of the rights and obligations under this Agreement. Any action taken or document executed by Mr. Aditya Kislay shall be deemed to be acts done or documents executed by the Selected Bidder and shall be binding on the Selected Bidder.

### 6.4 RESERVATION OF RIGHTS

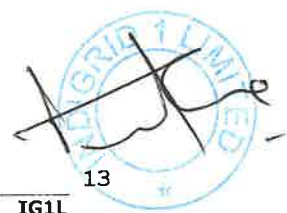
No forbearance, indulgence or relaxation or inaction by any Party at any time to require performance of any of the provisions of this Agreement shall in any way affect, diminish or prejudice the right of such Party to require performance of that provision, and any waiver or acquiescence by any Party of any breach of any of the provisions of this Agreement shall not be construed as a waiver or acquiescence of any continuing or succeeding breach of such provisions, a waiver of any right under or arising out of this Agreement or acquiescence to or recognition of rights other than that expressly stipulated in this Agreement.

### 6.5 CUMULATIVE RIGHTS

All remedies of either Party under this Agreement whether provided herein or conferred by statute, civil law, common law, custom or trade usage, are cumulative and not alternative and may be enforced successively or concurrently.

### 6.6 PARTIAL INVALIDITY

If any provision of this Agreement or the application thereof to any person or circumstance shall be invalid or unenforceable to any extent, the remainder of this Agreement and the application of such provision to persons or circumstances other than those as to which it is held invalid or unenforceable shall not be affected thereby, and each provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law. Any invalid or unenforceable provision of this Agreement shall be replaced with a provision, which is valid and enforceable and most nearly reflects the original intent of the unenforceable provision.





## 6.7 TERMINATION

If (i) the Closing does not occur on the Closing Date for any reason whatsoever, or (ii) the Letter of Intent is withdrawn or terminated for any reason, or (iii) due to termination of the TSA by the Central Transmission Utility of India Limited (CTUIL) in accordance with Article 3.3.2 or Article 13 of the TSA thereof, REC PDCL shall have a right to terminate this Agreement forthwith by giving a written notice to the other Parties hereto.

## 6.8 AMENDMENTS

No modification or amendment of this Agreement and no waiver of any of the terms or conditions hereof shall be valid or binding unless made in writing and duly executed by all the Parties.

## 6.9 ASSIGNMENT

This Agreement and the rights and liabilities hereunder shall bind and inure to the benefit of the respective successors of the Parties hereto, but no Party hereto shall assign or transfer its rights and liabilities hereunder to any other Person without the prior written consent of the other Parties, which will not be unreasonably withheld.

## 6.10 ENTIRE AGREEMENT

This Agreement constitutes the entire Agreement between the Parties with respect to the subject matter herein and supersedes and cancels any prior oral or written agreement, representation, understanding, arrangement, communication or expression of intent relating to the subject matter of this Agreement.

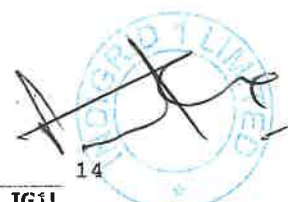
## 6.11 COSTS

Each of the Parties hereto shall pay their own costs and expenses relating to the negotiation, preparation and execution of this Agreement and the transactions contemplated by this Agreement.

The Selected Bidder shall be liable to bear and pay the costs in respect of this Agreement and transfer of Sale Shares.

## 6.12 RELATIONSHIP

None of the provisions of this Agreement shall be deemed to constitute a partnership between the Parties hereto and no Party shall have any authority to bind the other Party otherwise than under this Agreement or shall be deemed to be the agent of the other in any way.



### 6.13 GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by and construed in accordance with the laws of India and shall be subject to the exclusive jurisdiction of the courts of Delhi.

### 6.14 COUNTERPARTS

This Agreement may be executed in counterparts by the Parties and each fully executed counterpart shall be deemed to be original.

### 6.15 CONFIDENTIALITY

The Parties undertake to hold in confidence and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:

- (a) to their professional advisors;
- (b) to their officers, employees, agents or representatives, who need to have access to such information for the proper performance of their activities;
- (c) disclosures required under Law;

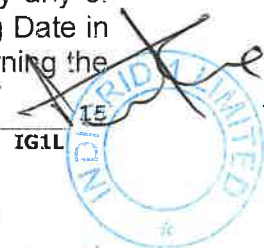
without the prior written consent of the other Parties.

Provided that the Central Transmission Utility of India Limited (CTUIL) and REC PDCL may at any time, disclose the terms and conditions of transactions contemplated hereby to any person, to the extent stipulated under the law or the Bidding Guidelines.

### 6.16 INDEMNIFICATION

The Parties hereby agree that transfer of Sale Shares to the Selected Bidder shall vest all the rights, privileges, licenses, responsibilities, liabilities and other obligations pertaining to the Company in the Selected Bidder.

- The Selected Bidder hereby agrees that the Selected Bidder shall not be entitled to any claims or initiate any legal proceedings by itself or through the Transmission Service Provider against the Shares Seller, its directors, officers, employees and the subscribers including the members of any committees appointed by them in respect of any actions or decisions taken by any of them up to the Closing Date in furtherance of the Project referred to in recital A of this Agreement.
- Further, the Selected Bidder hereby indemnifies and holds harmless at all times the Shares Seller against all past, present and future third party claims and liabilities arising out of actions or decisions taken by any of the persons or bodies referred to in Clause 6.3 up to the Closing Date in furtherance of the Project referred to above or otherwise concerning the



Company. All such actions shall be defended by the Selected Bidder either itself or through the TSP at its own cost.

- The Parties hereby agree that the provisions of this clause shall survive the termination of this Agreement.

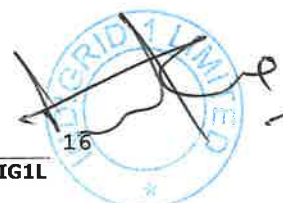
#### 6.17 SURVIVAL

The provisions of Clause 1 (Definitions and Interpretation), Clause 4 (Representations and Warranties), Clause 6.2 (Resolution of Disputes), Clause 6.7 (Termination), Clause 6.15 (Confidentiality), Clause 6.16 (Indemnification) and other representations, warranties, covenants and provisions contained herein that by their nature are intended to survive, shall survive the termination of this Agreement

#### 6.18 FORCE MAJEURE

No party shall be liable for its inability or delay in performing any of its obligations hereunder if such delay is caused by circumstances beyond the reasonable control of the party including delay caused through flood, riot, Act of God, lighting civil commotion, storm, tempest and earthquake.

**IN WITNESS WHEREOF, THE PARTIES HERETO HAVE CAUSED THIS AGREEMENT TO BE DULY EXECUTED AND DELIVERED AS OF THE DAY AND YEAR FIRST ABOVE WRITTEN**



SIGNED AND DELIVERED by the within named **REC POWER DEVELOPMENT AND CONSULTANCY LIMITED** by the hand of Sh. Rajesh Kumar, CEO

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on 16<sup>th</sup> January, 2024)

IN THE PRESENCE OF:

WITNESS:

(Name and address)

1. P.S. ARUNARAN



(Core-4, SCOPE Complex,  
7, Lodhi Road, New Delhi-110003)

2. Satyaban Sahoo  
(SATYABAN SAHOO)

(Core-4, SCOPE Complex,  
7, Lodhi Road, New Delhi-110003)

SIGNED AND DELIVERED by the within named **ISHANAGAR POWER TRANSMISSION LIMITED** by the hand of Sh. Daljit Singh Khatri, Chairman

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on 9<sup>th</sup> February, 2024)

WITNESS:

(Name and address)

1. Anil Kumar Peral

2. Ritam Biswas

(Core-4, SCOPE Complex,  
7, Lodhi Road, New Delhi-110003)

(Core-4, SCOPE Complex,  
7, Lodhi Road, New Delhi-110003)







SIGNED AND DELIVERED by The within named **IndiGrid 2 Limited (Lead Member)** by the hand of Mr. Aditya Kislay

(Authorised pursuant to the resolution passed by the Board of Directors in its meeting held on 24<sup>th</sup> January, 2024)



WITNESS:

(Name and address)

1.   
(SHIVAM PATHAK)
2.   
(RAJNISH MISHRA)

(Unit No. 101, 1<sup>st</sup> Floor, Windsor, Village Kolkalyan, Off CST road, Vidyanagari Marg, Santacruz (East), Mumbai – 400098, Maharashtra, India)

(Unit No. 101, 1<sup>st</sup> Floor, Windsor, Village Kolkalyan, Off CST road, Vidyanagari Marg, Santacruz (East), Mumbai – 400098, Maharashtra, India)


SIGNED AND DELIVERED by The within named **IndiGrid 1 Limited (Other Member)** by the hand of Mr. Puneet Singh Chauhan

(Authorised pursuant to the resolution passed by the Board of Directors in its meeting held on 24<sup>th</sup> January, 2024)



WITNESS:

(Name and address)

1. AKHILESH  
Akhilesh
2.  Tanak Choudhary

(Unit No. 101, 1<sup>st</sup> Floor, Windsor, Village Kolkalyan, Off CST road, Vidyanagari Marg, Santacruz (East), Mumbai – 400098, Maharashtra, India)

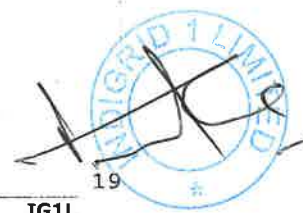
(Unit No. 101, 1<sup>st</sup> Floor, Windsor, Village Kolkalyan, Off CST road, Vidyanagari Marg, Santacruz (East), Mumbai – 400098, Maharashtra, India)



**ANNEXURE A****DESCRIPTION OF THE SALE SHARES**

S. NO.	NAME OF THE SHAREHOLDER	NUMBER OF EQUITY SHARES HELD	PERCENTAGE OF THE TOTAL PAID UP EQUITY CAPITAL
1.	REC POWER DEVELOPMENT AND CONSULTANCY LIMITED through its Chief Executive Officer*	49,994	99.988
2.	Shri Thangarajan Subash Chandira Bosh*	1	0.002
3.	Shri Puthiyarkattu Shivaraman Hariharan*	1	0.002
4.	Shri Sahab Narain *	1	0.002
5.	Shri Rajendra Kumar Gupta*	1	0.002
6.	Shri Mohan Lal Kumawat*	1	0.002
7.	Shri Shambhu Shanker Gupta*	1	0.002
	Total	50,000	100.000

\* Held as nominee of REC PDCL.



**ANNEXURE B**

S. NO.	NAME OF THE SHAREHOLDER	NUMBER OF SHARES	PERCENTAGE OF THE TOTAL PAID UP EQUITY CAPITAL
1.	IndiGrid 1 Limited	35,000	70.000
2.	IndiGrid 2 Limited (IGL2)	14,994	29.988
3.	Mr. Satish Talmale (As a nominee of IGL2)	1	0.002
4.	Ms. Meghana Pandit (As a nominee of IGL2)	1	0.002
5.	Mr. Kundan Kishore (As a nominee of IGL2)	1	0.002
6.	Mr. Urmil Shah (As a nominee of IGL2)	1	0.002
7.	Mr. Giriraj Ajmera (As a nominee of IGL2)	1	0.002
8.	Mr. Ashwin Rajput (As a nominee of IGL2)	1	0.002
	<b>Total</b>	<b>50,000</b>	<b>100.000</b>



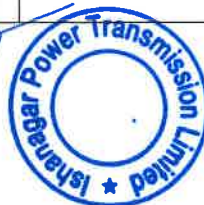


## FORM-I

## Particulars of the Applicant

<b>S.no</b>	<b>Name of the Applicant:</b>	ISHANAGAR POWER TRANSMISSION LIMITED			
<b>ii</b>	<b>Status:</b>	<b>Individual/Partnership firm/Private Limited Company/Public Limited Company</b>	Public Limited Company		
<b>iii</b>	<b>Address:</b>	<b>Registered Office:</b> Core-4, Sope Complex, 7, Lodhi Road, Delhi - 110003  <b>Communication Address:</b> Unit No. 101, First Floor, Windsor, Village Kolkalyan, off CST Road, Vidyanagari Marg, Kalina, Santacruz (East), Mumbai – 400098			
<b>iv</b>	<b>Name, Designation &amp; Address of the Contact Person:</b>	Lokendra Singh Ranawat, Head Regulatory, Windsor, 1st Floor, Unit no. 101, Kalina, Santacruz East, Mumbai, Maharashtra 400098			
<b>v</b>	<b>Contact Tel. No.:</b>	+91 9311279183			
<b>vi</b>	<b>FAX No.:</b>				
<b>vii</b>	<b>Email Id:</b>	regulatory@indigrid.com			
<b>viii</b>	<b>Place of Incorporation/Registration:</b>	Delhi			
<b>ix</b>	<b>Year of Incorporation/Registration:</b>	09.06.2023			
<b>x</b>	<b>Following documents are to be enclosed:</b>				
<b>(a)</b>	<b>Certificate of Registration</b>	Not Applicable			
<b>(b)</b>	<b>Original Power of Attorney of the Signatory to commit the Applicant or its promoter</b>	Annexure- P-17			
<b>2</b>	<b>Particulars of the Project for which licence is being sought</b>				
<b>(a)</b>	<b>Transmission Lines:</b>				
<b>S.No</b>	<b>Name (End-points location)</b>	<b>Voltage Class (kV)</b>	<b>Length (Km)</b>	<b>Type (S/C or D/C)</b>	
	LILO of one circuit of Jabalpur - Orai 765 kV D/c line at Ishanagar 765 kV S/s (New)	765 KV	5 Km	S/C	
<b>(b)</b>	<b>Sub-Stations:</b>				
<b>S.No</b>	<b>Name (Location)</b>	<b>Voltage Level(s) (kV)</b>	<b>Transformer (Nos. and MVA capacity)</b>	<b>Reactive/capacitive compensation (device with MVAR capacity)</b>	<b>No. of bays</b>
	Establishment of 2x1500 MVA, 765/400 kV and 2x500 MVA, 400/220 kV S/s at Ishanagar (New) along with 1x330 MVAR, 765 kV & 1x125 MVAR, 420 kV bus reactor	400 kV and 220 kV	765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA 1-phase units including	330 MVAR, 765 Kv Bus Reactor – 1 Nos. (4X110 MVAR including 1 spare unit)	- 765 kV ICT bays – 2 Nos. - 400 kV ICT bays – 4 Nos. - 220 kV ICT bays – 2 Nos. - 765 kV Line bays – 2 Nos. - 765 kV Bus reactor bay: 1 No.

Lokendra Singh



			<p>one spare ICT unit)</p> <p>400/220 kV, 500 MVA ICT – 2 Nos.</p> <p><b>Future Provisions:</b></p> <p><b>Space for</b> 765/400 kV ICT - 4 Nos. Nos.</p> <p>400/220 kV ICT -7 Nos.</p>	<p>125 MVA 420 kV Bus reactor -1 No</p> <p>Future Provisions</p> <p>Space for</p> <p>765 kV switchable line reactors – 8</p> <p>765 kV Bus Reactor: 3 Nos.</p> <p>400 kV switchable line reactor – 10</p> <p>400 kV Bus Reactor: 3 Nos.</p>	<p>- 400 kV Bus reactor bay: 1 No.</p> <p>- 220 kV Bus coupler bay- 1 No.</p> <p>- 220 kV Transfer Bus Coupler (TBC) bay - 1 No.</p> <p>- 220 kV line bays – 6 Nos. (for 220 kV lines to be implemented by MPPTCL#)</p> <p>Future Provisions:</p> <p>Space for 765/400 kV ICT with bays- 4 Nos.</p> <p>765 kV line bays along with switchable line reactor – 8 Nos.</p> <p>765 kV Bus Reactor with bay: 3 Nos.</p> <p>765 kV Sectionalizer: 1 set</p> <p>400 kV line bays along with switchable line reactors – 10 Nos.</p> <p>400/220 kV ICT along with bays -7 Nos.</p> <p>400 kV bus reactor along with bays: 3 Nos.</p> <p>400 kV Sectionalization bay: 1- set</p> <p>220 kV line bays: 12 Nos.</p> <p>220 kV Sectionalization bay: 2 sets</p> <p>220 kV BC and TBC: 2 Nos</p>
(c)	<b>Commissioning Schedule:</b>	24 Months from the date of SPV Transfer, i.e. 08.02.2026			
(d)	<b>Identified Long-term transmission customers of the Project:</b>	1. Central Transmission Utility of India Ltd.			
	<b>(Agreements or status of discussion on Agreements to be submitted along with application</b>	Concession Agreement entered with CTUIL dated 09 <sup>th</sup> Feb 2024.			
(e)	<b>Any other relevant information</b>	Not Applicable			

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3	Levelized transmission charges in case of project selected through the transparent process of competitive bidding and <del>Estimated completion cost of the project in other cases:</del>	Levelized tariff is Rs 62.588 Cr/ Year
	(The levelized transmission charges <del>Estimated cost</del> should be indicated in INR, <del>along with the base month and year in case of the estimated cost</del> )	
4	In case applicant has been selected in accordance with the competitive bidding, enclose:	
(a)	Recommendation of selection by Empowered Committee Evaluation report public by the bid Process Coordinator	Annexure-P-9
5	List of Documents Enclosed:	
	Name of document	
a)	Article of Association	Annexure-P-2
b)	Certificate of Incorporation	Annexure-P-1
c)	Certified true copy of the resolution passed by the board of directors of the company on March 22, 2023	Annexure-P-17
d)	Memorandum of Association	Annexure-P-2

Dated: Delhi

Place: 16.02.2024

(Signature of Applicant or the Person Authorized)



## Annexure P-17

### **CERTIFIED TRUE COPY OF THE RESOLUTION PASSED BY THE BOARD OF DIRECTORS OF THE COMPANY IN ITS MEETING HELD ON FEBRUARY 09, 2024**

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#### **License and tariff adoption from Central Electricity Regulatory Commission (CERC)**

**“RESOLVED THAT** the Company do execute the project for “Western Region Expansion Scheme XXXIII (WRES-XXXIII): Part C (hereinafter referred to as “Project”) for the transmission of electricity to be supplied to the Long-Term Transmission Customers awarded to the Company by REC Power Development and Consultancy Limited, the Bid Process Coordinator, appointed by the Ministry of Power.

**RESOLVED FURTHER THAT** any of the Directors of the Company or Mr. Lokendra Ranwat or Mr. S.N. Sunkari, Authorised Signatory or Mr. Aditya Kislay, Authorised Signatory, Mr. Puneet Singh Chauhan, Authorised Signatory (collectively the “Authorised Representatives”) be and are hereby severally authorized to:-

- a) make an application to “Central Electricity Regulatory Commission” (CERC) for grant of License under Electricity Act and Tariff Adoption, approval for creation of security and to execute all necessary applications, documents, undertakings in connection therewith and personally appear before CERC or any other related statutory authority as may be required.
- b) appoint any consultant for representing to CERC.
- c) deal with any Long-Term Transmission Customers or any other statutory agency for the purpose of License and Tariff Adoption.
- d) do all such acts, deeds, matters and things necessary to give effect to this resolution.

**RESOLVED FURTHER THAT** certified true copy of this resolution duly certified by any of the Directors be given to any regulatory authority including CERC for its records.”

Certified True Copy

For **Ishanagar Power Transmission Limited**



**Amitanshu Srivastava**

Director (DIN- 07565361)

Date: 13-02-2024

Address: L-504, Pioneer Park, Sector-61, Ulhawas (83), Badshahpur, Gurgaon, Haryana - 122101

**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION,  
AT NEW DELHI  
PETITION NO. \_\_\_\_/TL/2024  
IN THE MATTER OF:**

Ishanagar Power Transmission Ltd.

...Applicant/Petitioner

Versus

Central Transmission Utility of India  
Ltd. & Anr.

...Respondents

**VAKALATNAMA**

I, Lokendra Singh Ranawat, Son of Shri B.S. Ranawat, aged about 40 years, Authorized Signatory of Ishanagar Power Transmission Ltd., Applicant/Petitioner herein, having my office at Windsor, 1st Floor, Unit no. 101, Kalina, Santacruz East, Mumbai, Maharashtra 400098, duly authorized thereof, hereby appoint and retain Ms. Aparajita Upadhyay, Advocate to act and appear for us in the above Petition on our behalf to conduct and prosecute (or defend) the same and all proceedings that may be taken in respect of any application connected with the same or any decree or other passed herein, to file and obtain return of documents, and to deposit and receive on my/our behalf in the said Petition and represent me/us and to take all necessary steps on my/our behalf in the above matter. I/We agree to ratify all acts done by the aforesaid Advocate in pursuance of this authority.

Place: Noida

Signature of the Party

Date: 16.02.2024

Executed in my presence.

"Accepted"



**Aparajita Upadhyay, Advocate**  
[Enrollment No. D/3808/2016]


  
**Lokendra Singh Ranawat**  
Authorized Signatory  
Ishanagar Power Transmission  
Ltd.



FORM-I		
	Particulars	
1	Name of the Petitioner/Applicant	Ishanagar Power Transmission Limited (IPTL)
2	Address of the Petitioner/Applicant	Windsor, 1st Floor, Unit no. 101, Kalina, Santacruz East, Mumbai, Maharashtra 400098
3	Subject Matter	Application under Sections 14, 15, 79(1)(e) of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2009 seeking Transmission License for Ishanagar Power Transmission Limited for the Transmission Project to be constructed through tariff based competitive bidding
4	Petition No...if any	P.NO...../TL/2024
5	Details of generation assets a) Generating station/units b) Capacity in MW c) Date of commercial operation d) Period for which fee paid e) Amount of fee paid f) Surcharge, if any	Not Applicable
6	Details of transmission assets a) Transmission line and sub-stations b) Date of commercial operation c) Period for which fee paid d) Amount of fee paid e) Surcharge, if any	Not Applicable
7	Fee paid for Adoption of tariff for a) Generation asset b) Transmission asset	Not Applicable
8	Application fee for licence a) Trading licence b) Transmission licence c) Period for which paid d) Amount of fee paid	b) Transmission License
9	Fees paid for Miscellaneous Application	Not Applicable
10	Fees paid for Interlocutory Application	Not Applicable
11	Fees paid for Regulatory compliance Petition	Not Applicable

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FORM-I		
	Particulars	
12	Fees paid for Review Application	Not Applicable
13	Licence fee for Inter-State Trading a) Category b) Period c) Amount of fee paid d) Surcharge, if any	Not Applicable
14	Licence fee for Inter-State Transmission a) Expected /Actual transmission charge b) Period c) Amount of fee calculated as a percentage of transmission charge d) Surcharge, if any	Not Applicable
15	Annual Registration Charge for Power Exchange a) Period b) Amount of turnover c) Fee paid d) Surcharge, if any	Not Applicable
16	Details of fee remitted. a) UTR No. b) Date of remittance c) Amount remitted	a) UTR No: NEFT:000144704237/UTIB000PAYU/C ENTRAL ELECTRICITY b) Amount: Rs.1,00,000.00 c) Date: 16.02.2024
<b>Note: while Sl. No 1 to 3 and 16 compulsory, the rest may be filled up as applicable.</b>		
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <b>Signature of the authorized Signatory with date</b> </div> <div style="text-align: center;">  </div> </div>		