

Bhadla Ramgarh Power Transmission Limited
(A 100% wholly owned subsidiary of Power Grid Corporation of India Limited)

B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110 016

CIN : U42202DL2026GOI466318

Ref: PG_BRPTL/License/

Dated: 05.08.2026

To,
The Secretary,
Central Electricity Regulatory Commission,
7th Floor, Tower B, World Trade Centre,
Nauroji Nagar, New Delhi-110029

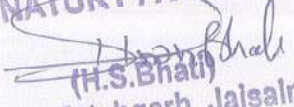
Subject: Petition under Section 14, 15, 79(1)(e) of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 with respect to Transmission License to Bhadla Ramgarh Power Transmission Ltd. (a 100% wholly owned subsidiary of Power Grid Corporation of India Limited)

Sir,

Three copies (1 original + 2 copies) of the petition for the above subject matter have been enclosed and e-filing has been done on CERC website. As per the public notice issued on 28.08.2010 by the Hon'ble Commission, the amount of Rs.1,00,000/- (Rupees One Lakh only) for filing the petition is being paid through RTGS and in accordance with the Regulations 12(2), Payment of Fees Regulations 2012. Form-I duly filled in against the aforementioned petition is also enclosed herewith.

Electronic Copies of the petition are being forwarded to the CTUIL (Nodal Agency) and to the Bid Process Coordinator and beneficiaries of the Western Region and Eastern Region and DICs as party to the Petition based on the list of the beneficiaries furnished by the CTUIL. The complete petition along with Annexures is posted on the website: www.powergrid.in/subsidiaries.

Thanking You,

SIGNATURE / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

**SURYA
PRAKASH**

Digitally signed by
SURYA PRAKASH
Date: 2026.08.05
23:05:56 +05'30'

Yours faithfully,

(Sh. Surya Prakash)

Project In-charge

Bhadla Ramgarh Power Transmission Ltd.

Email: regulatory@powergrid.in

Enclosures: As above



BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

IN THE MATTER OF: -

Subject matter:

Petition under Section 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, 2024 with respect to Transmission License to Bhadla Ramgarh Power Transmission Ltd. (a 100% wholly owned subsidiary of Power Grid Corporation of India Limited)

PETITION NO.:

Bhadla Ramgarh Power Transmission Ltd.

(A 100% wholly owned subsidiary of Power Grid Corporation of India Limited)

Registered office:

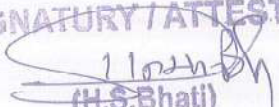
B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi 110 016



Address for Correspondence:

ED (Commercial & RC),
Power Grid Corporation of India Limited,
Floor No. 02, Tower-01, IRCON International Tower,
Plot No. 16, Institutional Area, Sector-32,
Gurgaon-122003

SIGNATURE / ATTESTED


(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO. :

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Subject matter:

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.....PETITIONER

VERSUS

Central Transmission Utility of India Ltd,

Floor No. 05th to 10th, Tower-01,
IRCON International Tower,
Plot No. 16, Institutional Area, Sector-32,
Gurgaon-122003

& Ors.

**SURYA
PRAKASH**

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SURYA PRAKASH
Date: 2026.08.05
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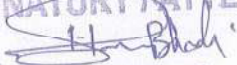


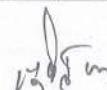
.....RESPONDENT(S)

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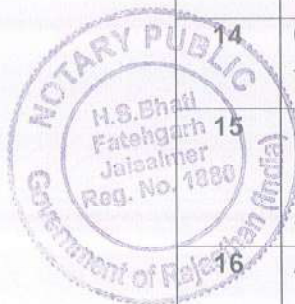
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SIGNATURE / ATTESTED


(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



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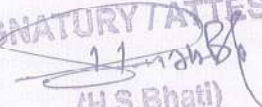
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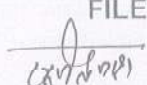
(H.S. Bhatti)
Notary Fatehgarh, Jaisalmer

(H.S. Bhatti)

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SIGNATURE ATTESTED

 (H.S. Bhati)
 Notary Jaisalmer, Jaisalmer

FILED BY

 (Sh. Surya Prakash)
 Project In-charge,
 Bhadla Ramgarh Power Transmission Ltd.

Place: Jaisalmer
 Date: 05.08.2026

**SURYA
 PRAKASH**

Digitally signed
 by SURYA
 PRAKASH
 Date: 2026.08.05
 23:08:06 +05'30'

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO. :

IN THE MATTER OF: -

Subject Matter:

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VERSUS

Central Transmission Utility of India Ltd,

Floor No. 05th to 10th, Tower-01,
IRCON International Tower,
Plot No. 16, Institutional Area, Sector-32,
Gurgaon-122003

& Ors.

... RESPONDENT(S)

To,

The Secretary
Central Electricity Regulatory Commission
New Delhi - 110029

Sir,



SIGNATURE / ATTESTED
(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

(Signature)

The petition filed under Section 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, 2024 with respect to the Transmission System being established by the **Bhadla Ramgarh Power Transmission Ltd** (A 100% wholly owned subsidiary of Power Grid Corporation of India Limited) for which transmission charges are determined through transparent process of bidding in accordance with the guidelines issued by the Central Government, may please be registered.

**SURYA
PRAKASH**

Digitally signed by
SURYA PRAKASH
Date: 2026.08.05
23:09:51 +05'30'

Petitioner: **Bhadla Ramgarh Power Transmission Ltd.**
(A 100% wholly owned subsidiary of Power Grid Corporation of India Limited)



Place: Jaisalmer
Date: 05.08.2026

Represented by (Sh. Surya Prakash)
Project In-charge
Bhadla Ramgarh Power Transmission Ltd.

SIGNATURE / ATTESTED

(H.S. Bhatti)
Notary Fatehgarh, Jaisalmer

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MEMO OF APPEARANCE

Bhadla Ramgarh Power Transmission Ltd.

..... PETITIONER

I, Sh. Surya Prakash, the petitioner above named do hereby nominate/ appoint following officers to act, plead and appear on my/our behalf in the aforesaid matter.

1. Sh. Surya Prakash, Project In-charge
2. A Jagannath Rao, Chief General Manager
3. Ashish Agrawal, Sr. Dy. General Manager
4. Prashant Kumar, Dy. General Manager
5. Abhijit Daimari, Dy. General Manager

IN WITNESS WHEREOF I/We have set and subscribed my/our hands to this writing on this 05th day of August 2026.



SIGNATURE/ATTESTED

(H.S. Bhati)
Notary Fatengarh, Jaipur

Place: Jaipur
Date: 05.08.2026

FILED BY
SURYA PRAKASH
SH
Digitally signed by SURYA PRAKASH
Date: 2026.08.05 23:13:41 +05'30'

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO. :

IN THE MATTER OF

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Gurgaon-122003

& Ors.

.... RESPONDENT(S)

MEMO OF PARTIES

Bhadla Ramgarh Power Transmission Ltd.

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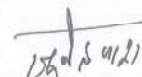
Registered office: B-9, Qutab Institutional Area, Katwaria Sarai,

New Delhi 110 016



SIGNATORY / ATTESTED


(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



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C/o ED (Commercial & RC),
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.... PETITIONER

VERSUS

1. Central Transmission Utility of India Ltd, (CTUIL)

Floor No. 05th to 10th, Tower-01,
IRCON International Tower,
Plot No. 16, Institutional Area, Sector-32,
Gurgaon-122003
Email: ctu@ctuil.in

2. REC Power Development and Consultancy Ltd. (RECPDCL)

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

3. AJMER VIDYUT VITRAN NIGAM LTD

CORPORATE OFFICE, VIDYUT BHAWAN,
PANCHSHEEL NAGAR, MAKARWALI ROAD,
AJMER-305004 (RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR

4. JAIPUR VIDYUT VITRAN NIGAM LTD

VIDYUT BHAWAN, JANPATH, JYOTI NAGAR,
JAIPUR-302 005 (RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR

5. JODHPUR VIDYUT VITRAN NIGAM LTD

NEW POWER HOUSE, INDUSTRIAL AREA,
JODHPUR – 342 003(RAJASTHAN)
REPRESENTED BY ITS MANAGING DIRECTOR



SIGNATURE / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



6. HIMACHAL PRADESH STATE ELECTRICITY BOARD

VIDYUT BHAWAN

KUMAR HOUSE COMPLEX BUILDING II

SHIMLA-171 004

REPRESENTED BY ITS CHAIRMAN

7. PUNJAB STATE POWER CORPORATION LIMITED

THE MALL, PSEB HEAD OFFICE

BY ITS CHAIRMAN AND MANAGING DIRECTOR

8. HARYANA POWER PURCHASE CENTRE

SHAKTI BHAWAN, SECTOR-6

PANCHKULA (HARYANA) 134 109

REPRESENTED BY ITS C.E. / C & R-1

9. POWER DEVELOPMENT DEPTT.

GOVT. OF JAMMU & KASHMIR

MINI SECRETARIAT, JAMMU

REPRESENTED BY ITS COMMISSIONER

10. UTTAR PRADESH POWER CORPORATION LTD.

SHAKTI BHAWAN, 14, ASHOK MARG

LUCKNOW - 226 001

REPRESENTED BY ITS CHAIRMAN

11. BSES YAMUNA POWER Ltd,

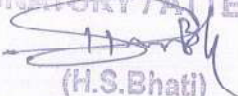
B-BLOCK, SHAKTI KIRAN, BLDG. (NEAR KARKADOOMA COURT)

KARKADOOMA 2ND FLOOR,

NEW DELHI-110092.

REPRESENTED BY ITS CEO



SIGNATURE / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



12. BSES RAJDHANI POWER Ltd,
BSES BHAWAN, NEHRU PLACE,
NEW DELHI-110019
REPRESENTED BY ITS CEO

13. TATA POWER DELHI DISTRIBUTION LTD.
NDPL HOUSE, HUDSON LANE
KINGSWAY CAMP
NORTH DELHI - 110009
REPRESENTED BY ITS CEO

14. CHANDIGARH ADMINISTRATION
SECTOR -9, CHANDIGARH.
REPRESENTED BY ITS CHIEF ENGINEER

15. UTTARAKHAND POWER CORPORATION LTD.
URJA BIIAWAN
KANWALI ROAD
DEHRADUN.
REPRESENTED BY ITS MANAGING DIRECTOR

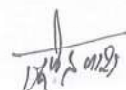
16. NORTH CENTRAL RAILWAY
DRM OFFICE, NAWAB YUSUF ROAD
PRAYAGRAJ, UTTAR PRADESH-211011.
REPRESENTED BY CHIEF ELECTRICAL DISTRIBUTIONENGINEER

17. NEW DELHI MUNICIPAL COUNCIL
PALIKA KENDRA, SANSAD MARG,
NEW DELHI-110002
REPRESENTED BY CHAIRMAN



SIGNATURE / ATTESTED


(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



18. HARYANA VIDYUT PRASARAN NIGAM LIMITED

SHAKTI BHAWAN, C-4, SECTOR-6
PANCHKULA (HARYANA) 134 109
REPRESENTED BY ITS CHAIRMAN

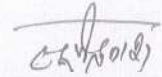
19. JAMMU KASHMIR POWER CORPORATION LIMITED

220/66/33 KV GLADNI SS SLDC BULIDING
NARWAL, JAMMU
REPRESENTED BY ITS CHAIRMAN

**SURYA
PRAKASH**

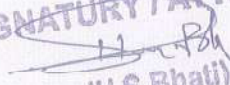
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SURYA PRAKASH... RESPONDENTS
Date: 2026.08.05
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FILED BY



(Sh. Surya Prakash)
Project In-charge

Bhadla Ramgarh Power Transmission Ltd.

SIGNATORY / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

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& Ors.

.... RESPONDENT(S)

AFFIDAVIT

I, Sh. Surya Prakash, son of Sh. Ramchandea Gupta, aged 52 years, Project In-Charge, presently residing at 17, Bari Cooperative Colony, Bokaro Steel City, Distt.: Bokaro, Jharkhand - 827012 do hereby solemnly affirm and state as follows: -



SIGNATURE / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

**SURYA
PRAKASH**

Digitally signed
by SURYA
PRAKASH
Date: 2026.08.05
23:19:37 +05'30'

1. I am the Authorised Signatory of the Petitioner Company in the above matter, and I am duly authorized by the Petitioner Company to affirm this affidavit. I say that I am conversant with the facts and circumstances of this case.
2. The statements made in paragraphs of the petition are true and correct based on my knowledge and belief based on the information received, and I believe them to be true.
3. That the annexures annexed to the Petition are correct and true copies of the respective originals.
4. I say that there are no proceedings pending in any court of law/ tribunal or arbitrator or any other authority, wherein the Petitioner is a party and where issues arising and/ or reliefs sought are identical or similar to the issues in the matter pending before the Honble Commission.



Place: Jaisalmer

Date: 05.08.2026

Notary Fatehgarh, Jaisalmer

**SURYA
PRAKASH**

Digitally signed by
SURYA PRAKASH
Date: 2026.08.05
23:21:19 +05'30'

SIGNATURE / ATTESTED
sworn before me by Shri
to
who is identified by
DEPONENT
(H.S. Bhati)
Notary Fatehgarh,
Jaisalmer

VERIFICATION/ DECLARATION:

I, the Deponent above named hereby solemnly declares that nothing material has been concealed or suppressed and further declares that the enclosures and typed set of material papers relied upon and filed herewith are true copies of originals/ fair representation of the originals/true translation thereof.

Verified by me on this the 05th day of August, 2026 at Jaisalmer.



SIGNATURE / ATTESTED
(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

**SURYA
PRAKASH**

Digitally signed by
SURYA PRAKASH
Date: 2026.08.05
23:24:10 +05'30'

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Central Transmission Utility of India Ltd. (CTUIL),

Floor No. 05th to 10th, Tower-01,
IRCON International Tower,
Plot No. 16, Institutional Area, Sector-32,
Gurgaon-122003

& Ors.

.... RESPONDENT(S)

APPLICATION

MOST RESPECTFULLY SHOWETH:

I. INTRODUCTION

The present petition is being filed by **Bhadla Ramgarh Power Transmission Ltd.** ("**BRPTL**" / "**Applicant**" / "**Petitioner**") under Section 15 of the Electricity Act, 2003 read



SIGNATURE / ATTESTED

(Signature)

(H.S. Bhati)

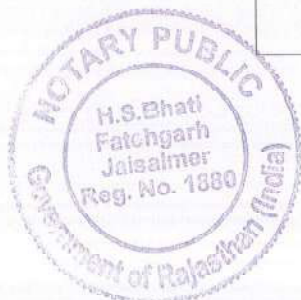
Notary Fatehgarh, Jaisalmer

(Signature)

with Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission License and other related matters) Regulations, 2024 seeking grant of a Transmission Licence to the petitioner for implementation of **Inter-State Transmission System** forming part of the "**Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)**", ("**the Project**") under Tariff Based Competitive Bidding under Section 63 of the Act on a Build, Own, Operate and Transfer ("**BOOT**") basis.

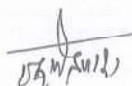
2. The details regarding Transmission Project for which the present transmission licence is sought and Scheduled Commercial Operation Date ("**SCOD**") are set out as below:

Sl. No.	Name of the Transmission Element	Scheduled COD
1	Augmentation of 400/220kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220kV Bhadla-III PS • 500 MVA, 400/220kV ICT - 5 Nos. (4 Nos. ICTs in 220 kV Sec-2 (6th to 9th) and 1 No. ICT in 220kV Sec-1 (10th) • 400kV ICT bay – 5 Nos. • 220kV ICT bay – 4 Nos. • 220kV ICT (GIS) bay – 1 No. (for 10th ICT) • 220kV GIS bus duct/Cable for interconnection of 220kV side of ICT (10th) to 220kV GIS bay (Section-1)	20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1))
2	Implementation of 5 Nos. of 220kV line bays at 765/400/220kV Bhadla-III PS. • 220kV line bay – 5 Nos.	
3	Implementation of 1 No. 400kV line bay at 765/400/220kV Bhadla-III PS • 400kV line bay – 1 No.	
4	Implementation of 2 sets 400kV sectionlizer bay at 765/400/220kV Bhadla-III PS • 400kV sectionalizer bay – 2 sets	
5	Augmentation of 765/400kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400/220kV Ramgarh PS • 1500 MVA, 765/400 kV ICT - 2 Nos. • 765kV ICT bay – 2 Nos. • 400kV ICT bay – 2 Nos.	
6	Augmentation of 400/220kV, 2x500MVA (3 rd & 4 th) ICTs at 765/400/220kV Ramgarh PS • 500 MVA, 400/220 kV ICT - 2 Nos. • 400kV ICT bays – 2 Nos. • 220kV ICT bay – 2 Nos.	



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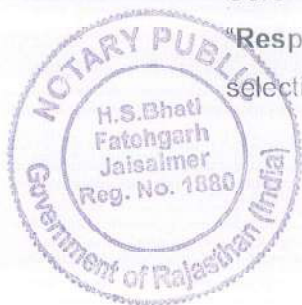
7	Implementation of 2 Nos. of 220kV line bays at 765/400/220kV Ramgarh PS • 220kV line bay – 2 Nos.	
8	Implementation of 1 No. of 400kV line bay at 765/400/220kV Ramgarh PS • 400kV line bay – 1 No.	
9	Augmentation of 765/400kV, 1x1500 MVA (3 rd) ICT at 765/400kV Kanpur (PG) substation • 1500MVA (3x500 MVA), 765/400 kV ICT - 1 No. • 765kV ICT bay (GIS) including completion of diameter. • 400kV ICT bay (GIS) in existing spare bay • All associated GIS duct with terminations.	

(*) **Scheduled COD (SCoD) for the Project is:** 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REF in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1)).

- Augmentation at Kanpur (GIS) S/s as part of Transmission system for evacuation of power from REF in Rajasthan (20 GW) under Phase III was agreed in the 3rd NRPC-TP meeting held on 19.02.2021, 49th NRPC meeting held on 27.09.2021 & 5th National Committee on Transmission (NCT) held on 25.08.2021 and 02.09.2021. Further, augmentation at Bhadla-III PS & Ramgarh PS is agreed in 41st CMETS-NR meeting held on 10.10.2025. The composite scheme was approved in 37th NCT held on 19.01.2026. Subsequently, Ministry of Power, Government of India, vide its Gazette Notification no. CG-DL-E-19022026-270309 dated 12.02.2026 declared establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through tariff based competitive bidding process route.

All the relevant extracts of aforesaid meetings are enclosed and marked as **Annexure-1(Colly)**.

- Pursuant to the aforesaid approval of the Project by the National Committee on Transmission, Ministry of Power, Government of India, vide Gazette Notification no. CG-DL-E-19022026-270309 dated 12.02.2026 declared establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through tariff based competitive bidding process route and notified "**REC Power Development and Consultancy Limited**", Core-4, SCOPE Complex, 7, Lodhi Road, New Delhi-110003. ("**RECPDCL**" / "**Respondent No. 2**") as the Bid Process Coordinator ("**BPC**") for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish the Project



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(Signature)

through Tariff Based Competitive Bidding process on build, own, operate and transfer basis. Copy of the said Gazette Notification is enclosed and marked as **Annexure-2**.

5. In furtherance of the aforesaid Government Decision, RECPDCL, in its capacity as the duly appointed BPC, issued the **Request for Proposal** dated **25.03.2026** ("RfP") inviting bids for development of the Project through the TBCB process in accordance with the TBCB Guidelines and the Guidelines for Encouraging Competition in Development of Transmission Projects issued by the Ministry of Power under Section 63 of the Act, as amended from time to time.
6. In terms of the RfP, the Project was to be implemented through a **Special Purpose Vehicle** ("SPV") structure. Accordingly, the Petitioner was incorporated by RECPDCL as the SPV. 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 providing Transmission Services.

Accordingly, a company under the Companies Act 2013 by the name "**Bhadla Ramgarh Power Transmission Ltd.**" having its registered office at New Delhi was incorporated on **08.05.2026** by RECPDCL as its wholly owned subsidiary to initiate the activities for execution of the Project and subsequently to act as Transmission Service Provider (TSP).

7. Pursuant to the bidding process conducted by RECPDCL in accordance with the RfP, including the **e-reverse auction** concluded on **23.06.2026**, "**Power Grid Corporation of India Limited**" ("**POWERGRID**") emerged as the Successful Bidder for the Project, having quoted the lowest levelised (uniform) Annual Transmission Charges, and was accordingly issued a **Letter of Intent** ("**Lol**") dated **08.07.2026** by RECPDCL.
8. In accordance with the RfP and the Lol, the Petitioner, which had been incorporated by RECPDCL as the SPV for implementation of the Project, was transferred to the successful bidder on **29.07.2026**.

Accordingly, on **29.07.2026**, RECPDCL, POWERGRID and the Petitioner executed the Share Purchase Agreement ("**SPA**"). In addition, the Transmission Service Agreement ("**TSA**") was signed between the Petitioner and CTUIL on **29.07.2026**, pursuant to



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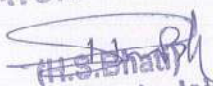
which 100% of the equity shareholding of the Petitioner stood transferred to POWERGRID, and the Petitioner became the duly appointed Transmission Service Provider ("TSP") for the Project.

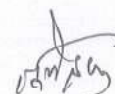
9. Further, **Clause 2.15.4 of the RfP** required that, upon completion of the acquisition of the Petitioner by the Successful Bidder under the SPA, the Petitioner, as the duly appointed TSP, is required to apply to the Appropriate Commission for grant of a Transmission Licence within five (5) working days.
10. The present Petition is therefore being filed strictly in compliance with the said contractual and statutory requirement.

II. DESCRIPTION OF THE PARTIES

11. The Applicant/ Petitioner, i.e. **Bhadla Ramgarh Power Transmission Ltd., ("BRPTL"/ "Applicant"/ "Petitioner")** is a company incorporated under the Companies Act, 2013 as a **SPV** under the TBCB framework for the exclusive purpose to undertakes ownership, financing, development, design, engineering, procurement, construction, commissioning, operation and maintenance of the Project which is as an Inter-State Transmission System and to provide Transmission Services.
12. **Respondent No. 1, Central Transmission Utility of India Ltd. ("CTUIL")**, is a Government Company and has been notified by the Ministry of Power, Government of India, vide Gazette Notification dated 09.03.2021 as the Central Transmission Utility ("CTU") under Section 38 of the Electricity Act, 2003. CTUIL is responsible for discharging all functions of the CTU, including undertaking transmission of electricity through the Inter-State Transmission System, and planning and coordination relating to such system, as specified under the Act. CTUIL is also the Nodal Agency as per the RfP and TSA of the Project.
13. **Respondent No. 2, REC Power Development and Consultancy Ltd. ("RECPDCL")**, was incorporated on 12.07.2007 as a wholly owned subsidiary of **REC Limited**, a Schedule-A, Maha Ratna Public Sector Enterprise under the Ministry of Power, Govt. of India. RECPDCL was appointed by the Government of India vide Gazette notification no. CG-DL-E-19022026-270309 dated 12.02.2026 as the BPC for selection of the TSP for the Project through the TBCB process.



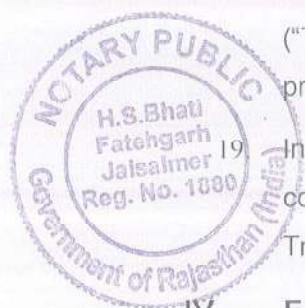
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14. **Respondent Nos. 3 to 19** are the Designated Inter-State Customers (**DICs**) and beneficiaries of the **Northern Region**, in terms of Regulation 5(3) of the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission Licence and Other Related Matters) Regulations, 2024.

III. JURIDICION

15. The Petitioner submits that this Hon'ble Commission has the requisite jurisdiction to entertain, hear and adjudicate the present Petition, as the Project constitutes an **Inter-State Transmission System (ISTS)** within the meaning of the Electricity Act, 2003 ("**Act**").
16. In terms of Sections 14, 15 and 79(1)(e) of the Act, this Hon'ble Commission is the **Appropriate Commission** empowered to grant transmission licences to entities engaged in Inter-State Transmission of electricity. The present Petition has been filed seeking the grant of a transmission licence in accordance with the provisions of Section 15 of the Act and the applicable regulations framed thereunder.
17. The Petitioner submits that the Project/ Transmission Scheme has been planned as an Inter-State Transmission System (ISTS) project by CTUIL, recommended by the NCT and approved by the Ministry of Power, Govt. of India. The Project comprises augmentation of Inter-Connecting Transformers (ICTs) along with Bays at Bhadla-III Pooling Station, Ramgarh PS in the State of **Rajasthan** and Kanpur(PG) Sub-Station in the State of **Uttar Pradesh**, forming an integral part of the ISTS. Accordingly, the Project falls within the ambit of inter-state transmission and is subject to regulatory and adjudicatory jurisdiction of this Hon'ble Commission under the provisions of the Act.
18. The present Petition is also maintainable under the provisions of the **Central Electricity Regulatory Commission (Procedure, Terms and Conditions for Grant of Transmission Licence and Other Related Matters) Regulations, 2024** ("Transmission Licence Regulations, 2024"), which prescribe the manner, form and procedure for grant of transmission licences by this Hon'ble Commission.



IV. FACTUAL BACKGROUND

In view of the foregoing, the present Petition is fully maintainable and deserves to be considered by this Hon'ble Commission under the provisions of the Act read with the Transmission Licence Regulations, 2024.

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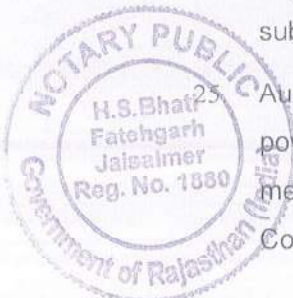
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The relevant facts for the kind consideration of this Hon'ble Commission are as follows:

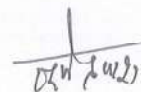
20. Transmission System requirement for additional 20GW REZ in Northern Region (Phase-III) was approved in 5th NCT meeting held on 25.08.2021 & 02.09.2021. As part of above scheme, establishment of 765/400/220kV Bhadla-III PS, 765/400/220kV Ramgarh PS along with associated EHVAC system was approved in Phase-III Part B1 package & Part C1 package of scheme respectively.
21. Further in 5th NCT meeting, it was decided that augmentation of 1x1500 MVA ICT at 765/400kV Kanpur (GIS) substation as part of Phase-III, Part J scheme is linked with HVDC system (LILO of Varanasi-Kanpur at Fatehpur) and since the timeframe of HVDC has now been delayed, therefore, this item could also be taken up later.
22. Subsequently, Augmentation of 400/220kV, 2x500 MVA (4th & 5th) ICTs, Augmentation of 765/400 kV, 2x1500 MVA (3rd & 4th) ICTs along with 220kV BC & TBC bay at Bhadla-III PS was approved as part of Transmission system of "Additional Transmission System for evacuation of power from Bhadla-III PS as part of Rajasthan REZ Phase-III scheme (20 GW)". The scheme is also under implementation.
23. As Connectivity application has already been granted at Ramgarh and Bhadla-III PS. With fulfilment of connectivity grant process, additional no. of ICTs along with line bays (400kV and 220kV) are required for RE interconnection in matching timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20GW) under Phase III scheme (Bhadla- Fatehpur HVDC scheme (Pole 1)).
24. The scheme comprises augmentation of 400/220kV, 5x500MVA (6th - 10th) ICTs, Implementation of 5 Nos. of 220kV line bays & 1 No. of 400kV line bay at 765/400/220kV Bhadla-III PS as well as augmentation with 765/400kV, 2x1500MVA (3rd & 4th) ICTs, 400/220kV, 2x500 MVA (3rd & 4th) ICTs, Implementation of 2 Nos. of 220kV line bays & 1 No. of 400kV line bay at 765/400/220kV Ramgarh PS. The scope also covers augmentation with 765/400kV, 1x1500 MVA (3rd) ICT at 765/400kV Kanpur (PG) substation.

25. Augmentation at Kanpur (GIS) S/s as part of Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase III was agreed in the 3rd NRPC-TP meeting held on 19.02.2021, 49th NRPC meeting held on 27.09.2021 & 5th National Committee on Transmission (NCT) held on 25.08.2021 and 02.09.2021. Further,



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augmentation at Bhadla-III PS & Ramgarh PS is agreed in 41st CMETS-NR meeting held on 10.10.2025. The composite scheme was approved in 37th NCT held on 19.01.2026. Subsequently, Ministry of Power, Government of India, vide its Gazette Notification no. CG-DL-E-19022026-270309 dated 12.02.2026 declared establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through tariff based competitive bidding process route.

26. Meanwhile, in furtherance of the aforesaid Government decisions, RECPDCL, in its capacity as the duly appointed BPC, issued the **Request for Proposal ("RfP")** dated **25.03.2026**, together with the Global Invitation and advertisements, inviting bids for development of the Project through the TBCB process in accordance with the TBCB Guidelines and the Guidelines for Encouraging Competition in Development of Transmission Projects issued by the Ministry of Power under Section 63 of the Act, as amended from time to time. Under the RfP, the successful bidder was required to acquire 100% of the equity shareholding of the Petitioner, being the SPV incorporated for the Project.

Copy of relevant extract of RfP dated **25.03.2026** along with the Global Invitation and advertisements is annexed herewith and marked as **Annexure-3 (Colly)**.

27. On **27.03.2026**, RECPDCL, in its capacity as the duly appointed BPC, formally informed this Hon'ble Commission of the initiation of the TBCB process for selection of the TSP for the Project, by issuance of a Global Invitation in National/ International newspapers in terms of the Standard Bidding Documents for TBCB Projects. A copy of the said letter is annexed herewith and marked as **Annexure-4**.

28. On the same date i.e. **27.03.2026**, RECPDCL also formally informed Ministry of Power that the TBCB process for the Project had been initiated by issuance of the Global Invitation and RFP and requested Ministry of Power to publish the RFP notice and RFP documents on its website. A copy of the said letter is annexed herewith and marked as **Annexure-5**.

29. A company under the Companies Act 2013 by the name "**Bhadla Ramgarh Power Transmission Ltd.**" having its registered office at New Delhi was incorporated on **08.05.2026** by RECPDCL as its wholly owned subsidiary to initiate the activities for



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execution of the Project and subsequently to act as Transmission Service Provider (TSP).

A copy of the Certificate of Incorporation of "**Bhadla Ramgarh Power Transmission Ltd.**" is annexed herewith and marked as **Annexure-6**.

30. On **21.05.2026**, in furtherance of the RfP and in accordance with Clause 1.6.2.1(5) thereof, **RECPDCL**, acting as the Bid Process Coordinator, issued a communication to POWERGRID intimating the **tentative Acquisition Price** payable by the Selected Bidder for acquisition of **100% equity shareholding of the Petitioner**, along with all its assets and liabilities. Subsequently, prior to the transfer of the SPV, RECPDCL vide its letter dated **24.07.2026** informed POWERGRID to deposit the **Acquisition Price of ₹12,85,79,427/-** for acquisition of the Petitioner.

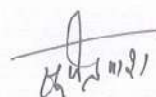
Copies of the letters dated 21.05.2026 and 24.07.2026 issued by RECPDCL to POWERGRID are annexed hereto and marked as **Annexure-7** and **Annexure-8**, respectively.

31. Pursuant to the Request for Proposal (RfP), POWERGRID submitted its Technical Bid and Initial Price Offer on **04.06.2026** in response to the Final RfP issued by the Bid Process Coordinator (BPC) for selection of a Transmission Service Provider (TSP) through the Tariff Based Competitive Bidding (TBCB) process.
32. Subsequently, e-Reverse Auction for the Project was concluded on **23.06.2026** in accordance with the RfP and the TBCB Guidelines, wherein POWERGRID emerged as the Successful Bidder having quoted the lowest final quoted (uniform) Annual Transmission Charges.
33. After completion of the e-Reverse Auction and verification of the bid documents submitted by POWERGRID, the Bid Evaluation Committee ("**BEC**") constituted under the TBCB Bidding framework evaluated the bids in accordance with the "Tariff Based Competitive Bidding Guidelines for Transmission Service" and the "Guidelines for Encouraging Competition in Development of Transmission Projects" issued by the MoP under Section 63 of the Electricity Act, 2003.



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34. Thereafter, on **29.06.2026**, the Bid Evaluation Committee issued its Certificate confirming the following: -

"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 Project" issued by Ministry of Power, Govt. of India under Section 63 of the Electricity Act, 2003 as amended from time to time.
- b. M/s Power Grid Corporation of India Limited, with the lowest annual transmission charges of Rs1,193.45 million, emerged as the successful bidder after the conclusion of electronic reverse auction.
- c. The transmission charges of Rs 1,193.45 million discovered after electronic reverse auction is acceptable."

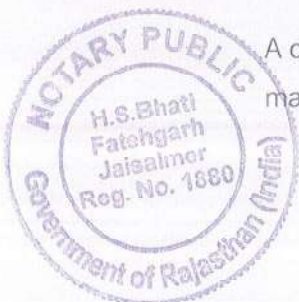
A copy of the Bid Evaluation Committee Certificate dated **29.06.2026** is annexed herewith and marked as **Annexure-9**.

35. On **08.07.2026**, upon completion of the e-Reverse Auction and evaluation of bids in accordance with the RfP, RECPDCL issued the Lol to POWERGRID, declaring it as the Successful Bidder for the Project under Clause 3.6.1 of the RfP, with the Quoted Annual Transmission Charges of **Rs. 1,193.45 Million**.

A copy of the Lol dated **08.07.2026** issued by RECPDCL to POWERGRID is annexed herewith and marked as **Annexure-10**.

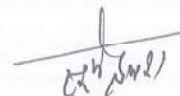
36. On **24.07.2026**, Ministry of Power, Govt. of India (MoP) officially approved the sale and transfer of the project to the POWERGRID.

A copy of the approval of MoP dated 24.07.2026 to RECPDCL is annexed herewith and marked as **Annexure-11**.



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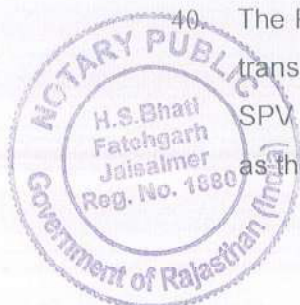
37. On **29.07.2026**, RECPDCL extended validity of Lol issued to POWERGRID for "Augmentation of Bhadla-III PS, Ramgarh PS and Kanpur (PG)" till 29.07.2026. Copy of letter is attached as **Annexure-12**.
38. Further, on **29.07.2026**, in accordance with the RfP and the Lol, RECPDCL, POWERGRID and the Petitioner executed the SPA. On the same date TSA was executed between the Petitioner and CTUIL. Pursuant thereto, 100% of the equity shareholding of the Petitioner stood transferred to POWERGRID, and the Petitioner became the duly appointed TSP for the Project. Copies of the SPA and TSA both dated **29.07.2026** are annexed herewith and marked as **Annexure-13** and **Annexure-14** respectively.
39. Factual Matrixes or final timelines involved in the bidding process conducted by RECPDCL are as under:

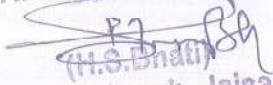
Date	Event
25.03.2026	Publication of RfP
04.06.2026	Submission Technical & Price Bid (Online submission of Bid through electronic bidding portal)
23.06.2026	e-Reverse Auction (Financial Bid – Final Offer) for the Qualified Bidders
08.07.2026	Selection of Successful Bidder and Issuance of LOI
29.07.2026	Validity of Lol extended vide letter ref no 2073 dated 29.07.2026
29.07.2026	Signing of Agreements and Transfer of SPV i.e. Bhadla Ramgarh Power Transmission Ltd.

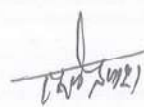
V. GROUNDS

Re. Compliance with Statutory Framework under the Act

40. The Petitioner submits that it is fully entitled, both in law and on facts, to be granted a transmission licence under Sections 14, 15 & 79(1)(e) of the Act. The Petitioner is the SPV incorporated exclusively for implementation of the Project and has been selected as the TSP pursuant to a TBCB process conducted under Section 63 of the Act.



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41. Section 14 of the Act contemplates that a transmission licence shall be granted to any person who is duly authorised to establish, operate and maintain a transmission system. In the present case, the Petitioner derives its authority directly from the outcome of a statutorily governed competitive bidding process, conducted under Section 63 of the Act and implemented through the Govt. of India vide its Gazette CG-DI-E-19022026-270309 dated 12.02.2026. The Petitioner is therefore not merely an applicant, but the legally selected entity vested with the responsibility to execute the Project.
42. Further, Section 79(1)(e) of the Act vests this Hon'ble Commission with exclusive jurisdiction to grant licences for Inter State Transmission Systems. The Project, being part of Inter State transmission network, squarely falls within the territorial and subject matter jurisdiction of this Hon'ble Commission.

Re. Compliance with Tariff Based Competitive Bidding (TBCB) Framework

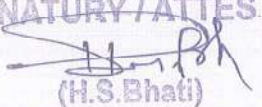
43. The Project has been awarded strictly in accordance with the TBCB Guidelines issued by the Ministry of Power, Govt. of India under Section 63 of the Act, pursuant to a transparent and competitive bidding process conducted by RECPDCL, the duly notified Bid Process Coordinator under the Govt. of India decision dated 12.02.2026.
44. The entire bidding process, including issuance of the RfP, conduct of e-reverse auction, declaration of POWERGRID as the successful bidder, and issuance of the Letter of Intent dated 08.07.2026, was carried out strictly in accordance with the RfP and the applicable TBCB Guidelines.
45. In accordance with Clause 1.5 of the RfP, the Petitioner SPV was acquired by POWERGRID pursuant to execution of the SPA dated 29.07.2026, and the TSA was simultaneously executed, thereby vesting all rights, obligations and project implementation responsibilities in the Petitioner as the TSP.

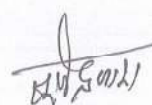
Re. Compliance with CERC Transmission Licence Regulations, 2024

Regulation 5 of the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2024 requires that a petition for grant of transmission licence be made in **Form-I** and



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be accompanied by the prescribed affidavit and documents. The present Petition has been filed strictly in the said format.

A true copy of the duly completed **Form-I**, together with all enclosures thereto, is annexed herewith and marked as **Annexure-15**.

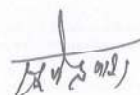
47. The Petitioner shall publish a notice of its petition for grant of licence in Form-II of the Transmission Licence Regulations in at least two leading daily digital newspapers, one in English language and another in the Indian language of the State or Union Territory where an element of the project or concerned transmission line is situated or proposed to be situated within 03 working days of filing the petition, inviting comments from the general public in compliance with Regulations 5(5) of the said Regulation.
48. The Petitioner is a project-specific SPV, fully owned and controlled by POWERGRID. The financial, technical and managerial capability of POWERGRID has already been evaluated and accepted by RECPDCL during the TBCB process and therefore stands conclusively established for the purposes of grant of licence.
49. Grant of the transmission licence will enable timely execution of the Project and is therefore squarely in public interest, grid security, and the objectives of the Act.
50. In accordance with Section 5(3) of the License Regulations, 2024 a copy of the present Petition is being simultaneously served upon CTUIL, being the nodal agency, for its comments and recommendations. A copy of the present petition is also being served upon RECPDCL, the Bid Process Coordinator, to enable it to place on record its confirmation in respect of the Tariff Based Competitive Bidding process undertaken for the Project.
51. That a copy of Application has also been marked to Designated ISTS Customers (DICs) and beneficiaries of the Northern Region as party to the Petition. If this Hon'ble Commission deems it necessary to implead any other party, then Petitioner shall implead such party as directed by this Hon'ble Commission.

52. The Petition along with annexures and enclosures has been hosted on the website of the Applicant i.e. www.powergrid.in/subsidiary to facilitate access to the Petition by



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(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



any person through the internet in compliance of the Regulation 5(4) of the Transmission License Regulations, 2024.

53. The Applicant/Petitioner shall publish the requisite Notices in the newspapers as per the Transmission Licence Regulations and after publication of the same, the Applicant/ Petitioner shall place a copy of the said publications before this Hon'ble Commission.
54. In view of the above, it is humbly submitted that the Applicant/ Petitioner fulfils the eligibility criteria for grant of transmission licence as stipulated in Section 14 and 15 of the Act and the Transmission License Regulations and therefore, this Hon'ble Commission may kindly grant the prayers, as prayed for.
55. The present Petition is filed *bona fide* and in the interest of justice.

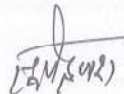
PRAYER

56. The Applicant/ Petitioner hereby humbly prays the Hon'ble Commission to:
- (a) Grant a Transmission Licence under Sections 14, 15 & 79(1)(e) of the Electricity Act, 2003 in favour of the Applicant, **Bhadla Ramgarh Power Transmission Ltd.**, to Build, Own, Operate and Transfer of the "*Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)*", being the inter-state transmission system; and
- (b) Direct issuance of the Transmission Licence in the prescribed Form-III of the Central Electricity Regulatory Commission (Procedure, Terms and Conditions for grant of Transmission Licence and other related matters) Regulations, 2024, subject to the general and specific conditions contained therein; and/or
- (c) Condone any minor, inadvertent or procedural defects or omissions, if any, in the present Petition and permit the Applicant to place on record such additional documents, information or clarifications as this Hon'ble Commission may require from time to time in the interest of justice; and



SIGNATURE / ATTESTED


(H.S. Bhati)
Notary Fatehgarh, Jaisalmer



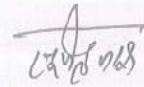
- (d) Pass such other order / orders, as may be deemed fit and proper in the facts and circumstances of the case.

Bhadla Ramgarh Power Transmission Ltd.
Petitioner

**SURYA
PRAKASH**

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by SURYA
PRAKASH

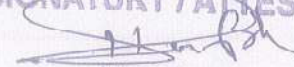
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Presented by Sh. Surya Prakash
Project In-charge
Bhadla Ramgarh Power Transmission Ltd.



SIGNATORY / ATTESTED

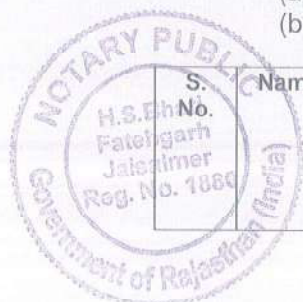

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

1. Particulars of the Applicant

S. No.	Particulars	Details
1.	Particulars of the Applicant	
i	Name of the Applicant	Bhadla Ramgarh Power Transmission Ltd.
ii	Status: Individual/ Partnership firm/ Private Limited Company/ Public Limited Company	Public Limited Company
iii	Address	B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi 110 016
iv	Name, Designation & Address of the Contact Person	Sh. Surya Prakash Project In-Charge, Bhadla Ramgarh Power Transmission Ltd. (100% wholly owned subsidiary of Power Grid Corporation of India Limited) C/o ED (Commercial & RC), Power Grid Corporation of India Limited, Floor No. 02, Tower-01, IRCON International Tower, Plot No. 16, Institutional Area, Sector-32, Gurgaon-122003
v	Contact Tele. No.	9415311735
vi	Fax No.	0124-2822062
vii	Email ID (s)	regulatory@powergrid.in
viii	Place of Incorporation / Registration	New Delhi, India
ix	Year of Incorporation / Registration	2026
x	Following documents are to be enclosed:	
a.	Certificate of Registration	Enclosed as Annexure-6
b.	Copy of Power of Attorney of the signatory to commit the Applicant or its promoter	Enclosed as Annexure-16

2. Particulars of the Project for which license/ Amendment in license (list of existing elements and proposed addition/ deletion element in case) is being sought:

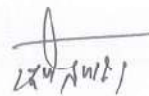
- (a) Transmission Lines: Nil
(b) Sub-stations:



S. No.	Name (location)	Voltage Level(s) (kV)	Transformer (Nos. & MVA Capacity)	Reactive/ Capacitive compensation (device with MVAR capacity)	No of Bays	Remarks

SIGNATURE / ATTESTED

 (H.S. Bhati)
 Notary Fatehgarh, Jaisalmer



1	765/400/220kV Bhadla-III PS	400kV & 220kV	500MVA, 400/220kV ICT – 5 Nos (4 Nos ICTs in 220kV Sec-2 (6 th to 9 th) and 1 No. ICT in 220kV Sec-1 (10 th))	NIL	- For 400/220kV ICTs 400kV ICT bay – 5 Nos. 220kV ICT bay – 4 Nos. 220kV ICT (GIS) bay – 1 No. (for 10th ICT) 220kV GIS bus duct/ Cable for interconnection of 220kV side of ICT (10th) to 220kV GIS bay (Section-1) 220kV line bay – 5 Nos 400kV line bay – 1 No. 400kV sectionalizer bay – 2 sets
2	765/400/220kV Ramgarh PS	765kV, 400kV & 220kV	1500MVA, 765/400kV ICT – 2Nos. 500MVA, 400/220kV ICT – 2Nos.	NIL	- For 765/400kV ICTs 765kV ICT bay – 2 Nos. 400kV ICT bay – 2 Nos. - For 400/220kV ICTs 400kV ICT bay – 2 Nos. 220kV ICT bay – 2 Nos. 220kV line bay – 2 Nos. 400kV line bay – 1 No.
3	765/400kV Kanpur (PG)	765kV & 400kV	1500MVA, 765/400kV ICT – 1 No	NIL	- For 765/400kV ICT 765kV ICT bay (GIS) including completion of diameter.



SIGNATURE / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

(Signature)

					• 400kV ICT bay (GIS) in existing spare bay • All associated GIS duct with terminations.	
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a) Remarks: Status whether the element is existing or proposed to be added or deleted.

- **Application is being filed for grant of a fresh license for addition of elements**

b) Scheduled COD: 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1)).

c) Agreements with Identified Long-term transmission Customer or CTU for the Project, as applicable: CTU as Nodal Agency for the Project & Transmission Service Agreement (TSA) executed with CTUIL is enclosed as **Annexure-14** to the instant petition.

3. **Quoted Transmission Charges in case of the project selected through the guidelines of competitive bidding and estimated completion cost of the project in other cases:**

: Transmission charges Rs. **1,193.45** Million per annum

4. In case applicant has been selected in accordance with the competitive bidding guidelines, enclose:

(a) Approval of Central Government as per Electricity (Transmission System Planning, Development and Recovery of Inter-state Transmission Charges) Rules, 2021

(b) Evaluation report (if made public) by the Bid Process Coordinator

Copy of Gazette Notification is enclosed as **Annexure-2** to the petition

Certificate of Bid Evaluation Committee as furnished by BPC is enclosed **Annexure-9** to the petition



SIGNATURE / ATTESTED

(Signature)
Notary Fatehgarh, Jaisalmer

(Signature)

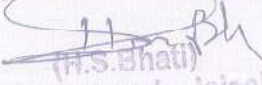
5. List of documents enclosed:

- a. Certificate of Registration, MoA & AoA
- b. Certificate of Bid Evaluation Committee as furnished by BPC
- c. Copy of Power of Attorney

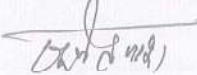
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PRAKASH**

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(H.S. Bhatil)
Notary Fatehgarh, Jaisalmer

Signature of the Applicant



Represented by **Sh. Surya Prakash**
Project In-charge
Bhadla Ramgarh Power Transmission Ltd.





सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

केंद्रीय 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 सैंतीसवी बैठक का कार्यवृत्त ।

Subject: Minutes of the 37th Meeting of the National Committee on Transmission (NCT)-reg.

महोदया (Madam) / महोदय (Sir),

The 37th meeting of the National Committee on Transmission (NCT) was held on 19th January, 2026 at New Delhi. The minutes of the meeting are enclosed herewith.

भवदीय / Yours faithfully

Digitally signed by
Bhagwan Sahay Bairwa
Date: 30-01-2026
11:19:38

(बी.एस. बैरवा / B.S. Bairwa)

मुख्य अभियन्ता एवं सदस्य सचिव, (एन.सी.टी.)/
Chief Engineer & Member Secretary (NCT)

SURYA

PRAKASH

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SURYA PRAKASH

Date: 2026.08.05
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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.	Additional Secretary (Trans), Ministry of Power Shram Shakti Bhawan, New Delhi-110001.
5.	Sh. Abhay Bakre, Mission Director, MNRE Atal Akshay Urja Bhawan Opposite CGO Complex gate No. 2, Lodhi Road, New Delhi – 110003	6.	Chief Operating Officer, CTUIL, Floors Nos. 5-10, Tower 1, Plot Nos. 16, IRCON International Tower, Institutional Area, Sector 32, Gurugram, Haryana - 122001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, Grid Controller of India, B-9 (1st Floor), Qutub Institutional Area, Katwaria Sarai, New Delhi – 110016
9.	Sh. Abhay Choudhary Expert Member	10.	Managing Director, Jammu Power Distribution Corporation Limited (JPDCL) Gladni Narwal, Jammu, Jammu & Kashmir, India - 180006
11.	Sh. S.R Narasimhan Expert Member	12.	Shri. Shivdas.S, Director (Transmission & System Operation) Vydyuthi Bhavanam, Pattom, Thiruvananthapuram, Kerala- 695004
13.	Sh. Sabyasachi Roy, Director (Operations), WBSETCL	14.	Chairperson, North Eastern Region Power Committee Hon'ble Minister of Power, Govt. of Assam, Guwahati – 781 006
15.	Chairperson, Western Region Power Committee 2nd Floor, Vidyut Seva Bhavan, P.O. Sunder Nagar, Danganiya, Raipur: 492 013		

Special Invitee

- i) Chief Engineer (PCD), CEA
- ii) CEO, RECPDCL
- iii) CEO, PFCCL

Sl. No.	Scope of works agreed in 34 th NCT meeting			Revised scope of works proposed		
	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)	Scope of works	Capacity (MVA) / Line length (km)/ Nos.	Estimated cost (₹ Cr.)
				line bays for future lines 400kV bus sectionaliser bay: 1 set 220kV bus sectionaliser bay :1 set 220kV bus coupler bay: 1 no.		
3.	Extension at Gogamukh 400/220/132kV (ISTS) substation	400kV line bays: 2 nos. [for Niglok PS – Gogamukh PS 400kV D/c (Quad) line]	29.44	No Change		29.44
4.	Kaying PS – Niglok PS 400kV D/c (Quad) line	100km	527.29	No Change		527.29
5.	Niglok PS – Gogamukh 400kV D/c (Quad) line	125km	681.21	No Change		681.21
	Total		2002.43	Total		2009.23 (2002.43 + 6.80)

2.4. Augmentation with 400/220 kV 5x500 MVA (6th to 10th) ICTs at Bhadla-III PS, 765/400 kV, 2x1500 MVA (3rd & 4th) ICTs & 400/220 kV, 2x500 MVA (3rd & 4th) ICTs at Ramgarh PS and 765/400 kV, 1x1500 MVA (3rd) ICT at Kanpur (PG) S/s

2.4.1. Representative of CTUIL stated that the Transmission System requirement for additional

20 GW REZ in Northern Region (Phase-III) was approved in 5th NCT meeting held on 25.08.21 & 02.09.21. As part of above scheme, establishment of 765/400/220KV Bhadla-III PS, 765/400/220KV Ramgarh along with associated EHVAC system was approved in Phase-III Part B1 package & Part C1 package of scheme respectively which is under implementation with Feb'26 schedule.

- 2.4.2. Further, agenda for Augmentation with 765/400 kV, 1x1500 MVA, Transformer (3rd) at Kanpur (GIS) S/s was taken up for approval in 5th NCT meeting as part of Phase-III, Part J scheme. In the meeting, it was decided that augmentation of 1x1500MVA ICT at 765/400kV Kanpur (GIS) substation is linked with HVDC system (LILO of Varanasi-Kanpur at Fatehpur) and since the timeframe of HVDC has now been delayed, therefore, this item could also be taken up later.
- 2.4.3. Further, it was informed that this system is linked with Bhadla-Fatehpur HVDC scheme (Pole 1) which has commissioning schedule of Jan 2029 so subject system is being planned in matching timeframe with Bhadla-Fatehpur HVDC scheme (Pole 1).
- 2.4.4. As Connectivity application has already been granted at Ramgarh and Bhadla-III PS. with fulfilment of connectivity grant process (Intimation, BGs etc.), additional no. of ICTs along with line bays (400kV and 220kV) are required for RE interconnection in matching timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III scheme (Bhadla-Fatehpur HVDC scheme (Pole 1).
- 2.4.5. Further, this transmission scheme was discussed in 36th NCT meeting held on 30.12.2025. In the meeting, issue of high short circuit level at 220kV bus section of Bhadla-III PS was highlighted and it was decided that scheme may be reviewed and put up in next NCT meeting linked with same HVDC scheme (Bhadla-Fatehpur). The scheme was reviewed and proposed with an additional 400/220kV ICT at Bhadla-III PS as part of the subject scheme.
- 2.4.6. After detailed deliberations, NCT recommended the transmission scheme “Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)” for implementation through TBCB mode.

Sl. No.	Name of the scheme and tentative implementation timeframe	Estimated Cost (₹ Crore)	Remarks
1.	Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG) Implementation timeframe: 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1))	1014.62	Approved under TBCB through RECPDCL

2.4.7. Detailed scope is as follows:

Sl. No.	Scope of the Transmission Scheme	Item Description	Estimated Cost
---------	----------------------------------	------------------	----------------

1.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220kV Bhadla-III PS	• 500 MVA, 400/220 kV ICT - 5 nos. (4 nos. ICTs in 220kV Sec-2 (6th to 9th) and 1 no. ICT in 220kV Sec-1 (10th)) • 400kV ICT bays – 5 nos. • 220 kV ICT bay – 4 nos. • 220 kV ICT (GIS) bay – 1 no. (for 10th ICT) • 220kV GIS bus duct/Cable for interconnection of 220 kV side of ICT (10th) to 220kV GIS bay (Section-1)	₹ 366.67 Crore
2.	Implementation of 5 nos. of 220kV line bays at 765/400/220kV Bhadla-III PS.	• 220kV line bay – 5 nos.	
3.	Implementation of 1 no. of 400kV line bay at 765/400/220kV Bhadla-III PS.	• 400kV line bay – 1 no.	
4.	Implementation of 2 sets 400kV sectionlizer bay at 765/400/220kV Bhadla-III PS	• 400kV sectionlizer bay – 2 sets	
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS	• 1500 MVA, 765/400 kV ICT - 2 nos. • 765kV ICT bays – 2 nos. • 400 kV ICT bay – 2 nos.	₹ 403.86 Crore
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS	• 500 MVA, 400/220 kV ICT - 2 nos. • 400kV ICT bays – 2 nos. • 220 kV ICT bay – 2 nos.	

7.	Implementation of 2 nos. of 220kV line bays at 765/400kV Ramgarh PS	• 220kV line bay – 2 nos.	
8.	Implementation of 1 no. of 400kV line bay at 765/400kV Ramgarh PS	• 400kV line bay – 1 no.	
9.	Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400kV Kanpur (PG) substation	• 1500 MVA(3x500MVA), 765/400 kV ICT - 1 no. • 765kV ICT bay (GIS) including completion of diameter. • 400 kV ICT bay (GIS) in existing spare bay • All associated GIS duct with terminations.	₹ 244.09 Crore
Total Estimated Cost:			₹ 1014.62

2.5. Implementation of "Augmentation of 1x500 MVA, 400/230 kV ICT (7th) at Tuticorin-II GIS Substation" awarded under RTM Mode to POWERGRID

2.5.1. Representative of CTUIL stated that the transmission scheme "Augmentation of 1x500MVA, 400/230kV ICT (7th) at Tuticorin-II GIS Substation" was approved for implementation with SCoD of 31.03.2027 (24 months) under RTM through POWERGRID by NCT in its 28th meeting held on 06.03.2025. CTUIL vide letter dated 21.03.2025 intimated to POWERGRID to process with the implementation of above scheme in line with the NCT.

2.5.2. Subsequently, during the 30th NCT meeting held on 30.05.2025, CTUIL informed that the transmission scheme has been approved as Associated Transmission System (ATS) for grant of connectivity to 03 nos. of applicants. Applicants were required to submit consent for implementation of transmission scheme as ATS and followed by Conn-BG2 (towards cost of ATS) on pro-rata basis of the connectivity quantum. In case the applicant(s) fails to submit the Connectivity Bank Guarantees, the grant of connectivity is liable to be revoked and augmentation of ICT (7th) may not be required. Applicant(s) still have timeline for submission of Consent for implementation of 7th ICT as ATS and submission of Conn-BG2. CTUIL has already requested POWERGRID to keep implementation of the scheme "on Hold" till further communications from CTUIL.

List of participants of the 37th meeting of NCT

CEA/MoP:

1. Sh. Ghanshyam Prasad, Chairperson
2. Sh. V. K. Singh, Member (PS)
3. Sh. Praveen Gupta, Member (E&C)
4. Sh. B. S. Bairwa, Chief Engineer (PSPA-II)
5. Smt. Ammi R Toppo, Chief Engineer (PSPA-I)
6. Sh. Farooque Iqbal, Director (PSPA-II)
7. Smt. Kavita Jha, Director (PSPA-I)
8. Sh. Ganeshwar Rao Jada, Director (PSPA-I)
9. Sh. Kanhaiya S Kushwaha, DD (PSPA-I)
10. Smt. Naghma Furqan, Director (PSCD)
11. Sh. Ajay Malav, AD (PSPA-II)
12. Sh. Prateek Jadaun, AD (PSPA-II)

MoP:

1. Sh. D. Sai Baba, Additional Secretary (Trans.)

MNRE:

1. Sh. Prasad Chaphekar, Dy. Secretary
2. Sh. Abhay Bakre, MD(NGHM)
3. Sh. Manoj Kr. Upadhyay, Dy Adviser
4. Sh. Shafiqur Rahman, DGM

CTUIL:

1. Sh. K.K. Gupta, COO
2. Sh. Vikas Bagadia, CGM
3. Sh. RVMM Rao, CGM
4. Sh. K. K. Sarkar, Sr. GM
5. Sh. Rajesh Kumar, Sr. GM
6. Sh. Anil Kr. Meena, GM
7. Sh. Sandeep Kumawat, DGM
8. Sh. Bhaskar Wagh, DGM
9. Sh. Ajay Dahiya, DGM
10. Sh. Anupam Kumar, Ch. Manager
11. Sh. Venkatesh Gorli, Ch. Manager
12. Sh. Pratyush Singh, Ch. Manager
13. Sh. Manish Ranjan Keshari, Ch. Manager

GRID India:

1. Sh. S.C. Saxena, CMD
2. Sh. Rajiv Porwal, Dir. (SO)
3. Sh. Vivek Pandey, CGM (NLDC)
4. Sh. Priyam Jain, Chief Manager (NLDC)
5. Sh. Raj Kishan, Deputy Manager (NLDC)

OPTCL

1. Director (Projects)

PFCCL

1. Sh. Sanjiv Kumar, DGM
2. Smt. Nirmala Meena, Ch. Manager
3. Sh. Deepak Kumar, Dy. Manager

Expert Members

1. Sh. S. R. Narasimhan
2. Sh. Abhay Choudhary

SECI

1. Sh. Vineet Kumar, DGM
2. Sh. R.K. Agarwal, Consultant

RECPDCL

1. Sh. Anil Kumar Perala, Chief Manager

RPCs

1. Sh. N.S. Mondal, MS(ERPC)
2. Sh. P.D.Lone, WRPC
3. Sh. Asit Singh, MS(SRPC)
4. Director (T&SO), KSEBL
5. Sh. K B Jagtap, MS (NERPC)
6. Sh. Vikash Shankar, AEE (NRPC)

I/18024/2021



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 & Appraisal-I Division

सेवा में / To

-As per enclosed list-

विषय: "ट्रांसमिशन पर राष्ट्रीय समिति" (एनसीटी) की 4th बैठक का कार्यवृत्त |

Subject: Minutes of the 5th Meeting of "National Committee on Transmission (NCT)"

महोदया / महोदय/Sir/Madam,

The 5th meeting of the "National Committee on Transmission" (NCT) was held through VC on 25.08.2021 and 02.09.2021 under the Chairmanship of Chairperson, CEA & Chairman, NCT. The minutes of the meeting is enclosed herewith.

भवदीय

Signature Not Verified
 Digitally signed by ISHAN
 SHARAN
 Date: 2021.09.29 10:26:44 IST

(ईशान शरण /Ishan Sharan)

मुख्य अभियन्ता एवं सदस्य सचिव/

Chief Engineer & Member Secretary (NCT)

Copy to:

- (i) Joint Secretary (Trans), Ministry of Power, Shram Shakti Bhawan, New Delhi-110001.

I/18024/2021

List of addressees:

1.	Chairperson, Central Electricity Authority Sewa Bhawan, R.K. Puram, New Delhi – 110 066.	2.	Member (Power System), 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 no. 14, CGO Complex, Lodhi Road, New Delhi – 110003	6.	Chief Operating Officer, Central Transmission Utility POWERGRID, Saudamini, Plot No. 2, Sector-29, Gurgaon – 122 001.
7.	Sh. Rajnath Ram, Adviser (Energy), NITI Aayog, Parliament Street, New Delhi – 110 001.	8.	CMD, POSOCO, B-9, Qutub, Institutional Area, Katwaria Sarai, New Delhi – 110010
9.	Dr. Radheshyam Saha, Ex. Chief Engineer, Central Electricity Authority	10.	Shri Sushanta Kumar Ray Mohapatra, Ex. Chief Engineer, Central Electricity Authority

I/18024/2021

of implementation of 1x500 MVA, 400/220 kV ICT at Bhatapara (PG) by CSPTCL as intra-state scheme.

5.9.2. NCT made the following recommendation:

S.no	Name of the scheme	Mode of implementation	Justification
1.	Augmentation of 1x500 MVA, 400/220 kV ICT (3 rd) at Bhatapara (PG) Estimated cost: Rs 30 cr. Implementation timeframe: 15 months from date of issue of MoP OM	RTM	Remedial measure to overcome operational constraint ('N-1' non compliance) of 400/220 ICTs at Bhatapara (PG) 400/220 kV substation. LILO of one circuit of Bhatapara (PG) – Suhela 220 kV T/c line at Bhatapara to be implemented by CSPTCL in matching time-frame of Bhatapara ICT.

Details of the scheme is given below:

Augmentation of 1x500 MVA, 400/220 kV ICT (3rd) at Bhatapara (PG)

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation of 1x500 MVA, 400/220 kV ICT (3 rd) at Bhatapara (PG)	400/220 kV, 500 MVA ICT –1 nos. 400 kV ICT bays – 1 nos. 220 kV ICT bays – 1 nos.
Approximate cost (Rs. Cr)		30

Note: To be implemented in the timeframe of implementation of LILO of one circuit of Bhatapara (PG) – Suhela 220 kV T/c line at Bhatapara (CSPTCL) under intra-state

B. Schemes agreed in Northern Regional Power Committees (Transmission Planning)

5.10 Transmission System requirement for additional 20 GW REZ in Northern Region (Phase-III)

Director (PSPA-I), CEA, stated that the transmission system for evacuation for 8.9 GW under Phase-I and 8.1 GW under Phase-II had been agreed and presently under implementation. Subsequently, SECI had requested to plan the transmission system for additional 20 GW SEZs envisaged in Rajasthan & proposed to be connected to the ISTS network in Bhadla, Fatehgarh and Ramgarh area. The locations of generation were identified by SECI based on the feedback of RE generation developers looking into the availability of land for setting up generation projects and proper access to these areas.

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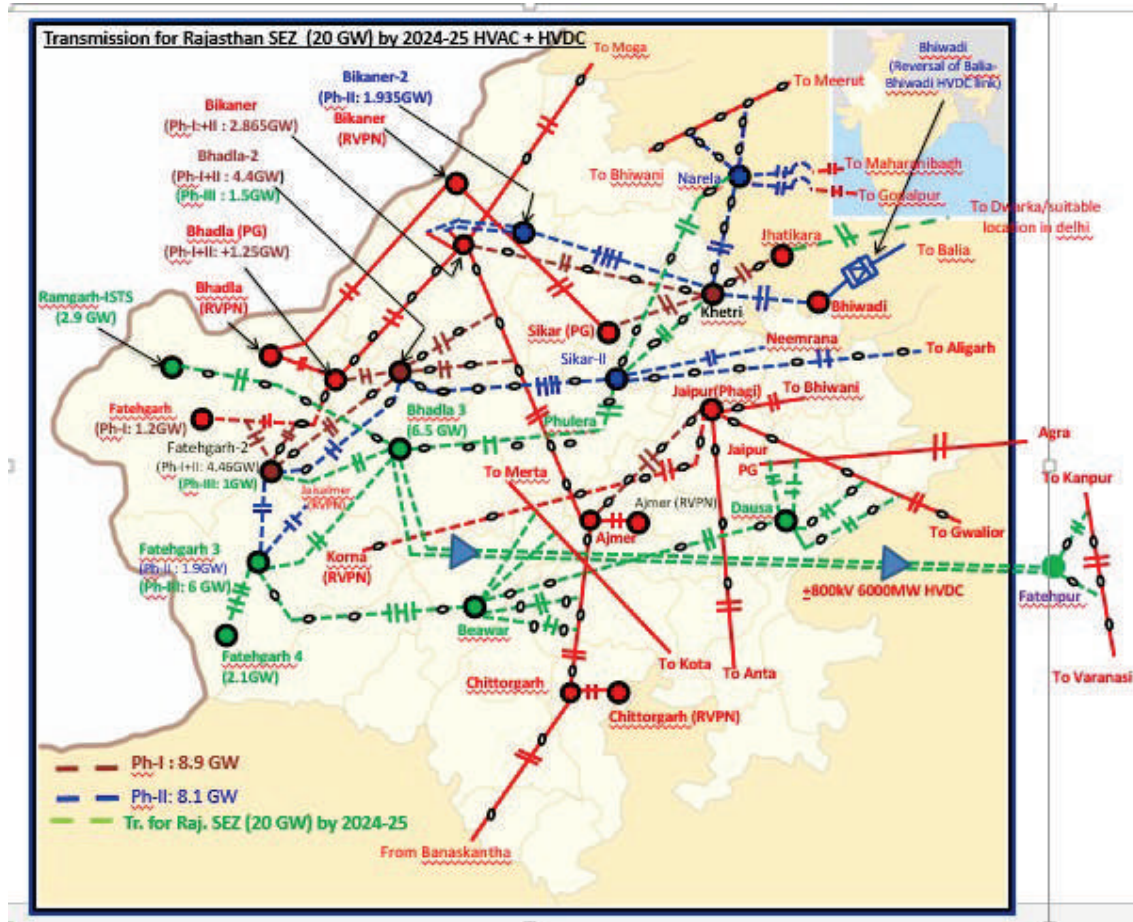
Further, these locations have the potential of both solar and wind generation. Considering it, load flow studies were carried out and discussed with NR constituents in various meetings. Based on the deliberations, transmission system for additional 20 GW REZ in Northern Region (Phase-III) was agreed in the 3rd NRPC (TP) meeting held on 19.02.2021 as given below:

- i) Establishment of 5x500 MVA 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVar Bus Reactor
- ii) Establishment of 2x1500 MVA 765/400kV & 10x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus Reactor
- iii) Establishment of 3x1500 MVA 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus reactor
- iv) Fatehgarh-2 – Bhadla-3 400kV D/c line (Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 2- Bhadla-3 400kV D/c line (200 km)
- v) Fatehgarh-4- Fatehgarh-3 400 kV 2xD/c twin HLTS line (50 km)
- vi) Fatehgarh 3- Bhadla-3 400kV D/c line(Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 3- Bhadla-3 400kV D/c line (200 km)
- vii) Ramgarh – Bhadla-3 765kV D/c line (180 km) along with 240 MVar line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3 765kV D/c line
- viii) Bhadla-3 – Sikar-II 765 kV D/c line (380 km) along with 330 MVar Switchable line reactor for each circuit at each end of Bhadla-3 – Sikar-II 765 kV D/c line
- ix) Sikar-II – Khetri 765 kV D/c line (90 Km)
- x) Sikar-II – Narela 765 kV D/c line (260 Km) along with 240 MVar Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line
- xi) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)
- xii) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-II PS
- xiii) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-II PS
- xiv) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG)
- xv) Jhatikara – Dwarka 400kV D/c line (Quad) (20km)
- xvi) Establishment of 6x1500 MVA 765/400kV & 5x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section*) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVar,765kV & 2x125 MVar, 420kV Bus Reactors
- xvii) Augmentation of 1x500 MVA ICT (5th), 400/220kV ICT at Fatehgarh-3 Substation (section-1*)
- xviii) Establishment of 2x1500MVA 765/400kV Substation at suitable location near Beawar along with 2x330 MVar, 765 kV Bus Reactor & 2x125 MVar, 420 kV Bus Reactor

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- xix) Fatehgarh-3– Beawar 765 kV 2xD/c (350 km) along with 330 MVar Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line
- xx) LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
- xxi) LILO of 400kV Kota –Merta line at Beawar (20 km)
- xxii) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVar 765 kV Bus Reactor & 2x125 MVar, 420 kV Bus Reactor
- xxiii) Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVar Switchable line reactor for each circuit at each end
- xxiv) LILO of both circuits of Jaipur(Phagi)-Gwalior 765 kV D/c at Dausa (40km) along with 240 MVar Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line
- xxv) LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa (30km) along with 50 MVar Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line
- xxvi) 6000MW, ± 800 KV HVDC terminal at Bhadla-3 substation
- xxvii) 6000MW, ± 800 KV HVDC terminal station at suitable location near Fatehpur (UP)
- xxviii) Establishment of 5x1500MVA, 765/400KV ICT at pooling station at suitable location near Fatehpur along with 2x330MVar (765kV) bus reactor
- xxix) ± 800 kV HVDC line (Hexa lapwing) between Bhadla-3 & Fatehpur (950km)
- xxx) LILO of both ckts of 765 kV Varanasi – Kanpur (GIS) D/c at Fatehpur(30km)
- xxxii) Augmentation of 1x1500 MVA ICT at 765/400kV Kanpur(GIS) substation
- xxxiii) STATCOM :
 - Fatehgarh – III S/s: STATCOM: $\pm 2 \times 300$ MVar, 4x125 MVar MSC, 2x125 MVar MSR
 - Ramgarh S/s : STATCOM : $\pm 2 \times 300$ MVar, 4x125 MVar MSC, 2x125 MVar MSR

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She further stated that the transmission lines envisaged in the 20 GW scheme would be passing through the GIB (Great Indian Bustard) potential zone as per the area marked in the Hon'ble Supreme Court of India Order dated 19.04.2021 in Writ Petition No. 838 of 2019 regarding GIB case. Further, in the aforesaid order, Hon'ble Supreme Court has constituted a committee for the specific purpose of assessing the feasibility of laying the transmission line after taking into consideration all technical details. Hon'ble Supreme Court has also directed that for all future cases of installing transmission lines in the priority zone or potential zone, feasibility for the lines to be laid underground is to be assessed. Wherever feasible, the transmission line has to be laid underground otherwise of overhead line with bird diverters can be installed only after ratification of its feasibility by the Committee constituted by Hon'ble Supreme Court.

COO(CTUIL) stated that earlier only priority zone was defined, so the transmission schemes were planned bypassing this zone. Now with the above mentioned order of Hon'ble Supreme Court, due to the newly defined Potential zone, some of the transmission schemes earlier approved under Part B, C and D of Phase-II (8.1 GW) are falling under this potential zone. CERC has directed Powergrid subsidiaries for the schemes: Part B, C and D of Phase-II to comply with the direction of Hon'ble Supreme Court.

Member (Power System), CEA, added that beside the transmission lines under the ISTS schemes, the dedicated lines of generators would also be falling under the GIB zone.

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Therefore, the generators as well as the developers of these transmission schemes would require to comply with the direction of Hon'ble Supreme Court, which in turn would cause delay the completion of the projects and the transmission schemes. Considering this, the transmission developers may have to approach the Committee constituted by Hon'ble Supreme Court well in advance.

Regarding the transmission scheme under Phase –III in Rajasthan, Expert Member, Dr. R. Saha, suggested that the option of series compensation, SVC, Synchronous condenser should be considered in future before zeroing in for STATCOM which is comparatively costly device. In this regard, Director (PSPA-I), CEA, stated that Rajasthan has huge RE potential of around 190 GW. As of now, the planned Transmission system under Phase-III consists of STATCOM for providing voltage stability. Other option like SVC, Synchronous condenser and the other options like Battery Energy Storage system will also be explored in near future.

Director (PSPA-I), stated that the transmission system for additional 20 GW REZ in Northern Region (Phase-III) has been divided into the following packages for the ease of implementation:

5.10.1 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part A1:

1. The scope of scheme is as under:

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 2x500 MVA, 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVar Bus Reactor <i>Future provisions: Space for 400/220kV ICTs along with bays: 5 nos. 400 kV line bays along with switchable line reactor: 6 nos. 400kV Bus Reactor along with bays: 2 nos. 400kV Sectionalization bay: 1 nos. 220 kV line bays: 10 nos. 220kV sectionalization bay: 2 nos.</i>	400/220 kV, 500 MVA ICT - 2nos. 400 kV ICT bays - 2 nos. 220 kV ICT bays - 2 nos. 400 kV line bays - 2 nos. 220 kV line bays- <i>As per connectivity granted to RE developer. (4 no. of bays considered at present)</i> 125 MVar, 420 kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos.
2.	Fatehgarh-4- Fatehgarh-3 400 kV D/c twin HLTS* line (50 km)	Length – 50 km
3.	Fatehgarh 3- Bhadla-3 400kV D/c line(Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 3- Bhadla-3 400kV D/c line	Length – 200km 400 kV 50 MVar Switchable line reactor – 4 nos.

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Sl.No.	Scope of the Transmission Scheme	Capacity /km
		Switching equipment for 400 kV 50 MVAR switchable line reactor –4 nos.
	Total Estimated Cost (Rs Crore)	660

* with minimum capacity of 2100 MW on each circuit at nominal voltage

Note:

- (i) Provision of suitable sectionalization shall be kept at Fatehgarh-4 at 400kV & 220kV level to limit short circuit level
 - (ii) Developer of Fatehgarh-3 Substation (new section) to provide 2 nos. of 400 kV line bays at Fatehgarh-3 S/s for termination of Fatehgarh-4- Fatehgarh-3 400 kV D/c twin HLTS* line
 - (iii) Developer of Fatehgarh-3 S/s(new section) to provide 2 nos. of 400 kV line bays along with space for switchable line reactors at Fatehgarh-3 for termination of Fatehgarh 3- Bhadla-3 400kV D/c line
 - (iv) Developer of Bhadla –3 substation to provide 2 nos. of 400 kV line bays along with space for switchable line reactors at Bhadla -3
 - (v) The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
2. CTUIL indicated that at Fatehgarh-4 PS, Stage-II connectivity applications have been granted for 510 MW, however no LTA application has been received yet. Therefore, implementation of Phase III –Part A1 is to be taken up upon receipt of LTA from RE developers at Fatehgarh-4 PS. In order to enable evacuation of RE power from Fatehgarh-4 PS, implementation schedule of phase III –Part A1 package is to match with package Phase III –Part E1 (Establishment of Fatehgarh-3 PS) & Phase III –Part F (Establishment of Beawar S/s, Fatehgarh-3 PS-Beawar line, LILO of Ajmer-Chittorgarh D/c at Beawar & LILO of Kota-Merta line at Beawar).
 3. CTUIL also suggested that the Fatehgarh 3- Bhadla-3 400kV D/c line may be taken up as a separate package or in A2 package and may be taken up later. Therefore, it was decided that Fatehgarh 3- Bhadla-3 400kV D/c line may be taken up as a separate package.
 4. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part A1 Estimated Cost: Rs 210 Crore. Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB	For evacuation of RE power getting pooled at Fatehgarh –4.

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5. The Detailed Scope of works in the scheme is as given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under phase III –Part A1”

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 2x500 MVA, 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVAr Bus Reactor <i>Future provisions: Space for 400/220 kV ICTs along with bays: 5 nos. 400 kV line bays along with switchable line reactor: 6 nos. 400 kV Bus Reactor along with bays: 2 nos. 400 kV Sectionalization bay: 1 nos. 220 kV line bays: 10 nos. 220 kV sectionalization bay: 2 nos.</i>	400/220 kV, 500 MVA ICT - 2nos. 400 kV ICT bays - 2 nos. 220 kV ICT bays - 2 nos. 400 kV line bays - 2 nos. 220 kV line bays- <i>As per connectivity granted to RE developer. (4 no. of bays considered at present)</i> 125 MVAr, 420kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos.
2.	Fatehgarh-4- Fatehgarh-3 400 kV D/c twin HLTS* line (50 km)	Length – 50km
3.	2 no. of 400 kV line bays at Fatehgarh-3	400 kV line bays - 2 nos.

* with minimum capacity of 2100 MW on each circuit at nominal voltage

Note:

- Provision of suitable sectionalization shall be kept at Fatehgarh-4 at 400kV & 220kV level to limit short circuit level
- Developer of Fatehgarh-3 S/s(new section) to provide space for 2 nos. of 400 kV line bays at Fatehgarh-3 S/s for termination of Fatehgarh-4- Fatehgarh-3 400 kV D/c twin HLTS* line
- The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- Implementation of the scheme to be taken up after receipt of LTA applications from RE developer at Fatehgarh-4 pooling station.

5.10.2 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part A2

- Director (PSPA-I), CEA, stated that the scheme “Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part A2” has been planned to enable the evacuation of RE power from Fatehgarh-4 under Phase III.
- After deliberations, NCT recommended the following:

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Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part A2 Estimated Cost: Rs 100 Crore Implementation Timeframe : 15 months from MoP OM.	RTM (The above scheme includes augmentation of 3 no. of transformers at Fatehgarh-4, which are required to be taken up for implementation at later stage based on the number of LTA applications received)	For evacuation of RE power (beyond 1000 MW) getting pooled at Fatehgarh –4.

3. The detailed scope of scheme is as under:

“Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part A2”

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation of 3x500 MVA, 400/220 kV pooling station at Fatehgarh-4	400/220 kV, 500 MVA ICT - 3nos. 400 kV ICT bays - 3 nos. 220 kV ICT bays - 3 nos. 220 kV line bays- <i>As per connectivity granted to RE developer. (5 no. of bays considered at present)</i>

Note:

- (ii) The implementation of number of 220 kV bays and 400/220 kV transformers shall only be taken up based on receipt of stage-II connectivity and commensurate LTA respectively (beyond 1000 MW at Fatehgarh-4).
- (iii) 220 kV line bays and Transformer augmentations shall be reviewed based on stage-II connectivity at 220kV voltage level and LTA applications respectively

5.10.3 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part A3

1. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under phase III –Part A3	TBCB (Fatehgarh 3- Bhadla-3	For evacuation of RE power (beyond 2000 MW) getting pooled at Fatehgarh

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Estimated Cost: Rs 505 Crore	400kV D/c line may be taken up for implementation on receipt of LTA beyond 2000 MW at Fatehgarh-4)	–4.
Implementation Timeframe: 18 months from date of SPV acquisition.		

2. The detailed scope of the scheme is as follows:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part A3”

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Fatehgarh 3- Bhadla-3 400kV D/c line(Quad) along with 50 MVAR Switchable line reactor for each circuit at both ends of Fatehgarh 3- Bhadla-3 400kV D/c line	Length – 200km 400 kV 50 MVAR Switchable line reactor – 4 nos. Switching equipment for 400 kV 50 MVAR switchable line reactor –4 nos. 400kV line bays Bhadla-3 S/s & Fatehgarh-3 S/s -4 nos. (2+2)

Note:

- Fatehgarh 3- Bhadla-3 400kV D/c line may be taken up for implementation on receipt of LTA beyond 2000 MW at Fatehgarh-4.
- Developer of Fatehgarh-3 S/s(new section) to provide space 2 nos. of 400 kV line bays along with space for switchable line reactors at Fatehgarh-3
- Developer of Bhadla –3 substation to provide space for 2 nos. of 400 kV line bays along with space for switchable line reactors at Bhadla -3

5.10.4 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part B1

- The scheme “Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part B1” has been planned to establish connectivity as well as enable the evacuation of RE power from Bhadla-3 and Ramgarh PS (beyond Bhadla-3) under phase III.
- CTUIL stated that at present Stage-II connectivity applications for 224MW quantum has already been granted at Bhadla-3 PS, however regulatory compliance is still pending in above connectivity case. Further Stage-II connectivity applications for 2600MW has been granted at Ramgarh PS. However, no LTA application has been received yet at both the above pooling stations. Therefore, implementation of Phase III –Part B1 may be taken up upon receipt of LTA from RE developers at Ramgarh PS/Bhadla-3 PS.

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3. After detailed deliberations, NCT recommended the following :

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under phase III –Part B1 Estimated Cost: Rs 2500 Crore Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB (Implementation of Phase III –Part B1 may be taken up upon receipt of LTA from RE developers at Ramgarh PS/ Bhadla-3 PS)	For evacuation of RE power getting pooled at Bhadla-3.

4. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part B1”

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 2x1500 MVA 765/400kV & 3x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVA (765kV) Bus Reactor & 2x125 MVA (420kV) Bus Reactor <i>Future provisions: Space for</i> <i>765/400kV ICTs along with bays: 2nos.</i> <i>765kV line bay along with switchable line reactor: 4nos.</i> <i>765kV line bay: 4nos.</i> <i>765kV Bus Reactor along with bays: 2 nos.</i> <i>400/220 kV ICTs along with bays: 10nos.</i> <i>400 kV line bays: 8 nos.</i> <i>400 kV line bays along with switchable line reactor: 4</i> <i>400kV Bus Reactor along with bays: 2</i>	765/400kV 1500 MVA ICTs: 2 nos (7x500 MVA including one spare unit) 765kV ICT bays - 2 nos. 400/220 kV, 500 MVA ICT - 3nos. 765kV line bays -2 nos. 400 kV ICT bays – 5 nos. 220 kV ICT bays - 3 nos. 400 kV line bays - 2 nos 220 kV line bays: As per connectivity granted to RE developers (5 no. of bays considered at present) 330 MVA Bus Reactor-2 nos. (7x110 MVA, including one spare unit) 765kV reactor bay- 2 nos. 125 MVA, 420kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos.

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Sl. No.	Scope of the Transmission Scheme	Capacity /km
	<i>nos.</i> <i>400kV Sectionalization bay: 2 nos.</i> <i>220 kV line bays: 12 nos.</i> <i>220kV sectionalization bay: 2nos.</i>	
2.	Fatehgarh-2 – Bhadla-3 400kV D/c line (Quad moose) along with 50 MVAR Switchable line reactor for each circuit at both ends of Fatehgarh 2- Bhadla-3 400kV D/c line	Length – 200km 400 kV 50 MVAR switchable line reactor –4 Switching equipment for 400 kV 50 MVAR switchable line reactor –4
3.	2 nos. of 400 kV line bays at Fatehgarh-2 for Fatehgarh-2 – Bhadla-3 400kV D/c line	400 kV line bays - 2 nos.
4.	Bhadla-3 – Sikar-II 765 kV D/c line along with 330 MVAR Switchable line reactor for each circuit at each end of Bhadla-3 – Sikar-II 765 kV D/c line	Length – 380km Switching equipment for 765 kV 330 MVAR switchable line reactor –4 765 kV, 330 MVAR Switchable line reactor-4
5	2 nos. of 765kV line bays at Sikar-II	765 kV line bays - 2nos

Note:

- Implementation of the scheme to be taken up upon receipt of LTA from RE generation developers at Ramgarh PS/Bhadla-3 PS
- Provision of suitable sectionalization shall be kept at Bhadla-3 at 400kV & 220kV level to limit short circuit level
- Powergrid to provide space for 2 nos. of 400 kV line bays along with space for switchable line reactors at Fatehgarh-2 S/s
- The line lengths mentioned above are approximate, as the exact length shall be obtained after detailed survey.
- Developer of Sikar-II S/s to provide space for 2 nos. of 765 kV line bays at Sikar-II S/s along with space for switchable line reactors

5.10.5 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part B2

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1. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part B2 Estimated Cost: Rs 235 Crore Implementation Timeframe : 15 months from MoP OM.	RTM (The implementation of number of 220kV bays and transformers to be taken up based on receipt of Stage-II connectivity and commensurate LTA respectively (beyond 1500MW at Bhadla-3))	For evacuation of RE power (beyond 1500 MW) getting pooled at Bhadla-3.

2. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part B2”

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation of 7x500 MVA 400/220 kV transformation capacity at Bhadla-3	400/220 kV, 500 MVA ICT - 7nos. 400 kV ICT bays – 7 nos. 220 kV ICT bays - 7 nos 220 kV line bays: As per connectivity granted to RE developers (10 no. of bays considered at present). 220 kV bus sectionalizer-1 nos

Note:

- The implementation of number of 220 kV bays and 400/220 kV transformers to be taken up based on receipt of stage-II connectivity and commensurate LTA respectively (beyond 1500 MW at Bhadla-3).
- 220 kV line bays and Transformer augmentations shall be reviewed based on stage-II connectivity at 220 kV voltage level and LTA applications respectively.

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

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1. The scope of scheme is as under:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	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 <i>Future provisions: Space for 765/400kV ICTs along with bays: 3nos. 765kV line bay along with switchable line reactor: 2nos. 765kV Bus Reactor along with bays: 2 nos. 400/220 kV ICTs along with bays: 6 nos. 400 kV line bays along with switchable line reactor: 4nos. 400 kV line bays: 4 nos. 400kV Bus Reactor along with bays: 2 nos. 400kV Sectionalization bay: 3 nos. 220 kV line bays: 8 nos. 220kV sectionalisation bay: 2 nos.</i>	765/400kV 1500 MVA ICTs : 2 nos (7x500 MVA including one spare unit) 765kV ICT bays –2 nos. 400/220 kV, 500 MVA ICT – 2nos. 400 kV ICT bays – 4 nos. 220 kV ICT bays – 2 nos. 400 kV line bays – 2 nos. (for RE connectivity) 220kV line bays -4 nos. 765 kV line bays – 2 nos. 240 MVAR Bus Reactor-2 nos. (7x80 MVAR including one spare unit) 765kV reactor bay- 2 nos. 125 MVAR, 420kV bus reactor – 2 nos. 420 kV reactor bay – 2 nos. 400 kV bus sectionalizer- 1no
2.	Ramgarh – Bhadla-3 765kV 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	Length – 180km 765 kV, 240 MVAR switchable line reactor- 2 nos Switching equipment for 765 kV 240 MVAR switchable line reactor –2 nos.
3	STATCOM at Ramgarh S/s: ± 2x300 MVAR, 4x125 MVAR MSC, 2x125 MVAR MSR	
4	2 nos. of 765kV line bays at Bhadla-III	765 kV line bays - 2nos

Note:

- (i) 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

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- (ii) The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
 - (iii) Provision of suitable sectionalization shall be kept at Ramgarh at 400kV & 220kV level to limit short circuit level
2. CTU informed that at present 2600 MW Stage-II connectivity applications granted at Ramgarh PS, however no LTA application is received yet. Therefore, implementation of Phase III –Part C1 may be taken up upon receipt of LTA from RE developers at Ramgarh PS.
 3. Further, STATCOM package was deliberated to be excluded from this package in view of its requirement at later stage with adequate LTA applications.
 4. POSOCO stated that Battery Energy Storage System could be treated as an alternative to STATCOM and therefore needs to be explored for evacuation of power from RE sources. In this regard, Member (PS) stated that studies pertaining to Battery Storage System could be done in and accordingly revised proposal could be taken up, if required.

5. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part C1 Estimated Cost: Rs 1160 Crore Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB (Implementation schedule of Phase III – Part C1 package is to matched 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)	For evacuation of RE power getting pooled at Ramgarh.

6. Detailed scope of the scheme is given below:

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

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 2x1500 MVA 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVA (765kV) Bus Reactor & 2x125 MVA (420kV) Bus reactor <i>Future provisions: Space for</i>	765/400kV 1500 MVA ICTs: 2 nos (7x500 MVA including one spare unit) 765kV ICT bays –2 nos.

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Sl. No.	Scope of the Transmission Scheme	Capacity /km
	765/400kV ICTs along with bays: 3nos. 765kV line bay along with switchable line reactor: 2nos. 765kV Bus Reactor along with bays: 2 nos. 400/220 kV ICTs along with bays: 6 nos. 400 kV line bays along with switchable line reactor: 4nos. 400 kV line bays: 4 nos. 400kV Bus Reactor along with bays: 2 nos. 400kV Sectionalization bay: 3 nos. 220 kV line bays: 8 nos. 220kV sectionalisation bay: 2 nos.	400/220 kV, 500 MVA ICT – 2nos. 400 kV ICT bays – 4 nos. 220 kV ICT bays – 2 nos. 400kV line bays - As per connectivity granted to RE developer. (2 no. of bays considered at present) 220kV line bays -As per connectivity granted to RE developer. (4 no. of bays considered at present) 765 kV line bays – 2 nos. 240 MVar Bus Reactor-2 nos. (7x80 MVar considering one spare unit) 765kV reactor bay- 2 nos. 125 MVar, 420kV bus reactor – 2 nos. 420 kV reactor 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	Length – 180km 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 765kV line bays at Bhadla-3	765 kV line bays - 2nos

Note:

- 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)
- 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 400kV & 220kV level to limit short circuit level
- Implementation of the scheme to be taken up upon receipt of LTA from RE

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generation developers at Ramgarh PS/Bhadla-3 PS

5.10.7 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C2

1. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part C2 Estimated Cost: Rs 80 Crore Implementation Timeframe: 15 months from MoP OM.	RTM (The implementation of package comprising number of 220kV bays and transformers to be taken up based on receipt of Stage-II connectivity and commensurate LTA respectively (beyond 1500MW at Ramgarh PS))	For evacuation of RE power (beyond 1500 MW) getting pooled at Ramgarh.

2. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C2”

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation of 1x1500 MVA 765/400kV at Ramgarh	765/400kV 1500 MVA ICT : 1 no 765 kV ICT bay – 1 no 400 kV ICT bay -1 no 220 kV line bays: <i>As per connectivity granted to RE developer. (3 no. of bays considered at present)</i>

Note:

- The implementation of package comprising number of 220kV bays and transformers. The 220kV bays to be taken based on receipt of Stage-II connectivity (beyond 1200 MW at 220kV level) and the implementation of transformer to be taken up upon receipt of LTA beyond 1500MW at Ramgarh PS.
- 220 kV line bays and Transformer augmentations shall be reviewed based on stage-II connectivity at 220 kV voltage level and LTA applications respectively

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5.10.8 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C3:

1. After deliberations, NCT recommended that the scheme be deferred at present and would be considered at a later stage based on requirement as per studies.

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part C3 Estimated Cost: Rs 300 Crore Implementation Timeframe: 15 months from MoP OM.	RTM (The implementation of Phase-III Part C3 to be taken up after grant of LTA beyond 2000 MW(about) at Ramgarh PS, if required, as per the studies)	May be taken up based on the requirement as per the studies wrt BESS.

2. Detailed scope of the scheme is given below:

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

Sl.No.	Scope of the Transmission Scheme	Capacity (MVar)
1.	Ramgarh S/s : STATCOM : $\pm 2 \times 300 \text{MVar}$, $4 \times 125 \text{MVar}$ MSC, $2 \times 125 \text{MVar}$ MSR	$\pm 2 \times 300 \text{MVar}$

Note:

- i) Transmission scheme “Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part C3” may be taken up based on the requirement as per the studies with respect to Battery Energy Storage System.
- ii) The implementation of Phase-III Part C3 to be taken up after grant of LTA beyond 2000 MW(about) at Ramgarh PS, if required, as per the studies.

5.10.9 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part D:

1. After deliberations, NCT recommended the following:

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Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part D Estimated Cost: Rs 1680 Crore Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB	For evacuation of RE power getting pooled at Ramgarh/Bhadla-3 and required to facilitate LTA to generators at Bhadla-3 and/or Ramgarh.

2. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part D”

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Sikar-II – Khetri 765 kV D/c line	Length – 90km
2	Sikar-II – Narela 765 kV D/c line along with 240 MVar Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line	Length – 260km Switching equipment for 765 kV 240 MVAR switchable line reactor –4 nos. 240 MVar, 765kV Switchable line reactor- 4 nos.
3	Jhatikara – Dwarka 400kV D/c line (Quad) (20km)	Length – 20km
5	765kV line bays at Sikar -II for Sikar-II – Khetri 765 kV D/c line and Sikar-II – Narela 765 kV D/c line	765 kV line bays - 4nos
6	2 nos. of 765kV line bays at both Khetri and Narela S/s	765 kV line bays - 4nos
7	2 nos. of 400kV line bays at both Jhatikara and Dwaraka S/s	400 kV line bays - 4nos

Note:

- Developer of Sikar-II S/s to provide space for 4 nos. of 765 kV line bays at Sikar-II S/s along with space for two nos. of switchable line reactors
- Developer of Narela S/s to provide space for 2 nos. of 765 kV line bays along with space for switchable line reactors at Narela S/s

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- (iii) Powergrid to provide space for two nos. of 765 kV line bays at Khetri substation
- (iv) Powergrid and DTL to provide space for two nos. of 400kV line bays both at Jhatikara and Dwarka S/s respectively
- (v) The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey.
- (vi) Scheme to be implemented in matching time frame of Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part C1

5.10.10 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part E1

1. The scope of scheme is as under:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 4x1500 MVA 765/400kV & 3x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section*) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVar, 765kV & 2x125 MVar, 420kV Bus Reactors	765/400kV 1500 MVA, ICT: 4 nos (13x500 MVA, including one spare unit) 330 MVar, 765 kV bus reactor- 2 nos. (7x110 MVar, including one spare unit) 765kV ICT bays - 4 nos. 400/220 kV, 500 MVA ICT - 3nos. 400 kV ICT bays –7 nos. 220 kV ICT bays - 3 nos. 765 kV line bays - 2nos. 400 kV line bays - 4 nos. 765kV reactor bay- 2 nos. 125 MVar, 420kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos.
2	Fatehgarh – III S/s : STATCOM : $\pm$ 2x300 MVar, 4x125 MVar MSC, 2x125 MVar MSR	

Note:

- (i) Provision of suitable sectionalization shall be kept at Fatehgarh-3 at 400kV & 220kV level to limit short circuit level STATCOM to be placed at new section of Fatehgarh-III PS from where phase-III scheme emanating
- (ii) Developer of Fatehgarh-III substation to provide space for Fatehgarh-III new section

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2. Director (PSPA-I), CEA, stated that 1.9 GW at Fatehgarh -3 (Phase –II) is already under implementation by the subsidiary of PGCIL. The above transmission scheme is for evacuating 6 GW potential at Fatehgarh-3 (Phase-III), which is utilising the future provision of the earlier approved scheme under Phase-II. Therefore, the future provisions mentioned in the proposed scheme would be deleted.
3. She further explained that some generators which are to be connected at 220 kV at Fatehgarh-III have been given connectivity in the new section and they have sought connectivity from March, 2022, onwards.
4. CTU stated that at present, 5425 MW Stage-II connectivity applications and 820MW LTA applications granted at Fatehgarh-3 PS. Therefore, implementation of Phase III – Part E1 is to be taken up for evacuation of power from for RE developers at Fatehgarh-3 PS. Also based on the present application, it is worthwhile to consider only three 1500 MVA ICTs. Further, STATCOM package was deliberated to be excluded from this package and may be taken up as per requirement at later stage.
5. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part E1 Estimated Cost: Rs 435 Crore Implementation Timeframe: 18 months from MoP OM.	RTM [Transmission system for 1.9 GW at Fatehgarh -3 (Phase –II) is already under implementation by the subsidiary of PGCIL. Transmission system under Phase-III- Part E1 is for evacuating 6 GW potential at Fatehgarh-3 (Phase-III), which is utilising the future provision of the earlier approved scheme under Phase-II. Hence, the scheme is proposed to be awarded under RTM]	For evacuation of RE power getting pooled at Fatehgarh-3.

6. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part E1”

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 3x1500 MVA 765/400kV	765/400kV 1500 MVA ICT: 3 nos

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Sl. No.	Scope of the Transmission Scheme	Capacity /km
	&3x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section*) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVA, 765kV & 2x125 MVA, 420kV Bus Reactors	(10x500 MVA, including one spare unit) 330 MVA, 765 kV bus reactor- 2 (7x110 MVA, including one spare unit) 765kV ICT bays - 3 nos. 400/220 kV, 500 MVA ICT - 3nos. 400 kV ICT bays –6 nos. 220 kV ICT bays - 3 nos. 765 kV line bays - 2nos. 765kV reactor bay- 2 nos. 125 MVA, 420kV bus reactor - 2 nos. 420 kV reactor bay - 2 nos.

Note:

- (i) Provision of suitable sectionalization shall be kept at Fatehgarh-3 at 400kV & 220kV level to limit short circuit level

5.10.11 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part E2

1. After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part E2 Estimated Cost: Rs 245 Crore Implementation Timeframe: 15 months from MoP OM	RTM [Implementation to be taken up at later stage based on the number of LTA applications received beyond 3000MW cumulative at Fatehgarh-3 (new section) & Fatehgarh-4 PS]	For evacuation of RE power getting pooled at Fatehgarh-3.

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2. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part E2”

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation of 3x1500 MVA 765/400kV & 2x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section)	765/400kV 1500 MVA ICT:3 nos. 400/220 kV 500 MVA ICT:2 nos 765kV ICT bay – 3 nos 400kV ICT bay -5 nos. 220 kV ICT bay- 2nos

Note: Implementation to be taken up at later stage based on the number of LTA applications received beyond 3000MW cumulative at Fatehgarh-3 (new section) & Fatehgarh-4 PS.

5.10.12 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III: Part E3

1. NCT stated that provision of STATCOM at Fatehgarh-III may be taken up as a separate package and implemented as per the requirement and studies wrt Battery Energy Storage System. Further, its requirement would be reviewed at a later date.
2. The revised scope of the scheme is as under:

Sl.No.	Scope of the Transmission Scheme	Capacity /km	Remarks
1	Fatehgarh – III S/s : STATCOM : $\pm$ 2x300 MVAR, 4x125 MVAR MSC, 2x125 MVAR MSR	2x $\pm$ 300MVAR	May be taken up based on the requirement as per the studies wrt BESS.

Note: STATCOM to be placed at new section of Fatehgarh-III PS from where Phase-III scheme emanating

5.10.13 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part F:

1. After deliberations, NCT recommended the following:

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Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part F Estimated Cost: Rs 2220 Crore Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB	For evacuation of RE power getting pooled at Fatehgarh-3 (new section) and/or Fatehgarh-4

2. Detailed scope of the scheme is given below:

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

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1	Establishment of 2x1500MVA 765/400kV Substation at suitable location near Beawar along with 2x330 MVar 765kV Bus Reactor & 2x125 MVar 420kV Bus Reactor <u>Future provisions:</u> Space for 765/400kV ICTs along with bays: 2 nos. 765kV line bay along with switchable line reactor: 6nos. 765kV Bus Reactor along with bays: 2 nos. 400/220 kV ICTs along with bays: 2nos. 400 kV line bays along with switchable line reactor: 4 nos. 400kV Bus Reactor along with bays: 1nos. 220 kV line bays: 4nos.	765/400kV 1500 MVA ICTs: 2 nos (7x500 MVA, including one spare unit) 330 MVar, 765 kV bus reactor- 2 (7x110 MVar, including one spare unit) 765kV ICT bays – 2 nos. 400 kV ICT bays – 2 nos. 765 kV line bays – 6 nos 400kV line bay- 2nos. 765kV reactor bay- 2 nos. 125 MVar, 420kV bus reactor – 2 nos. 420 kV reactor bay – 2 nos.
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

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Sl. No.	Scope of the Transmission Scheme	Capacity /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	Length – 350km Switching equipment for 765 kV 330 MVAR switchable line reactor –4 nos. 765 kV, 330 MVAR Switchable line reactor- 4 nos.

Note:

- Developer of Fatehgarh-3 S/s to provide 2 nos. of 765 kV line bays at Fatehgarh-3 S/s along with space for 765kV switchable line reactors
- The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
- Scheme to be taken up subject to receipt of LTA applications at Fatehgarh-3 (new section and/or Fatehgarh-4.

5.10.14 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part G:

- After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part G Estimated Cost: Rs 1530 Crore Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB (Implementation to be taken up upon receipt of LTA beyond 3000 MW cumulative at Fatehgarh-3 PS (new section) & Fatehgarh-4 PS)	For evacuation of RE power (beyond 3000 MW) getting pooled at Fatehgarh-3 (new section) and/or Fatehgarh-4

- Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part G”

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Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Fatehgarh-3– Beawar 765 kV D/c(2 nd) along with 330 MVAR Switchable line reactor for each circuit at each end of Fatehgarh-3–Beawar 765 kV D/c line	Length – 350km Switching equipment for 765 kV 330 MVAR switchable line reactor –4 765 kV, 330 MVAR Switchable line reactor- 4
2	2 nos. of 765kV line bays at both at Beawar & Fatehgarh-3	765 kV line bays - 4nos

Note:

- Implementation to be taken up upon receipt of LTA beyond 3000 MW cumulative at Fatehgarh-3 PS (new section) & Fatehgarh-4 PS).
- Developer of Fatehgarh-3 S/s to provide space for 2 nos. of 765 kV line bays at Fatehgarh-3 S/s along with space for 765 switchable line reactors.
- Developer of Beawar S/s to provide space for 2 nos. of 765 kV line bays at Beawar S/s along with space for 765kV switchable line reactors.
- The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey

5.10.15 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part H:

- After deliberations, NCT recommended the following:

Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part H Estimated Cost: Rs 1910 Crore Implementation Timeframe: 18 months from date of SPV acquisition.	TBCB (Implementation to be taken up upon receipt of LTA beyond 3000 MW cumulative at Fatehgarh-3 PS (new section) & Fatehgarh-4 PS)	For evacuation of RE power getting pooled at Fatehgarh-3 (new section) and/or Fatehgarh-4

- Detailed scope of the scheme is given below:

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“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part H”

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVAR, 765 kV Bus Reactor & 2x125 MVAR, 420 kV bus Reactor <i>Future provisions: Space for 765/400kV ICTs along with bays: 2 nos.</i> <i>765kV line bay along with switchable line reactor: 4nos.</i> <i>765kV Bus Reactor along with bays: 2 nos.</i> <i>400/220 kV ICTs along with bays: 2 nos.</i> <i>400 kV line bays along with switchable line reactor: 4 nos.</i> <i>400kV Bus Reactor along with bays: 1 nos.</i> <i>220 kV line bays: 4nos.</i>	765/400kV 1500 MVA ICTs: 2 nos. (7x500 MVA, including one spare unit) 330 MVAR, 765 kV bus reactor- 2nos. (7x110 MVAR, including one spare unit) 765kV ICT bays – 2 nos 400 kV ICT bays – 2 nos. 765 kV line bays – 6 nos. 400kV line bay- 4 nos. 765kV reactor bay- 2 nos. 125 MVAR, 420kV bus reactor – 2 nos. 420 kV reactor bay – 2 nos.
2.	LILO of both circuits of Jaipur(Phagi)-Gwalior 765 kV D/c at Dausa along with 240 MVAR Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line	Length – 40km Switching equipment for 765 kV 240 MVAR switchable line reactor –2 240 MVAR 765 kV Switchable line reactor- 2 (7x80 MVAR considering one spare unit) (also to be used as spare reactor at Dausa end for 765kV Beawar – Dausa D/c line)
3	LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa along with 50 MVAR Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line	Length – 30km Switching equipment for 420 kV, 50 MVAR switchable line reactor –2 420 kV, 50 MVAR Switchable line reactor-2 nos.

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Sl. No.	Scope of the Transmission Scheme	Capacity /km
4	Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVAR Switchable line reactor for each circuit at each end	Length – 240km Switching equipment for 765 kV 240 MVAR switchable line reactor –4 765 kV, 240 MVAR Switchable line reactor- 4 nos.
5	2 nos. of 765kV line bays at Beawar for Beawar – Dausa 765 kV D/c line	765 kV line bays – 2 nos

Note:

- Implementation of the scheme to be taken up upon receipt of LTA beyond 3000MW (about) cumulative at Fatehgarh-3 PS (new section) and Fatehgarh-4 PS.
- Developer of Beawar S/s to provide space for 2 nos. of 765 kV line bays along with space for 765kV switchable line reactors at their substations
- The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey

5.10.16 Name of Scheme: Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part I:

1. The scope of scheme is as under:

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 6000MW, ± 800 KV Bhadla(HVDC) terminal station at a suitable location near Bhadla-3 substation	
2.	Establishment of 6000MW, ± 800 KV Fatehpur(HVDC) terminal station at suitable location near Fatehpur (UP)	
3.	Bhadla-3 - Bhadla(HVDC) 400kV 2xD/c quad moose line along with the line bays at both substations	Line length- 2km 400kV line bays -8 nos.
4	± 800 KV HVDC line (Hexa lapwing) (4x1500 MW) between Bhadla-3 & Fatehpur (950km)	Length – 950km
5.	Establishment of 5x1500MVA, 765/400KV ICTs at Fatehpur (HVDC) along with	765/400kV 1500 MVA ICT : 5 nos (16x500 MVA, including one spare

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	2x330MVA_r (765kV) bus reactor <i>Future provisions: Space for</i> <i>765/400kV ICTs along with bays: 1 nos.</i> <i>765kV line bay along with switchable line reactor: 4nos.</i> <i>765kV Bus Reactor along with bays: 2 nos.</i> <i>400/220 kV ICTs along with bays: 4nos.</i> <i>400 kV line bays along with switchable line reactor: 4 nos.</i> <i>400kV Bus Reactor along with bays: 1 nos.</i> <i>220 kV line bays: 6nos.</i>	<i>unit)</i> 765kV ICT bays – 5 nos. 400 kV ICT bays – 5 nos. 765 kV line bays – 4 nos. 330 MVA_r, 765kV Bus Reactor-2 nos. (7x110 MVA_r, including one spare unit) 765kV reactor bay- 2 nos.
7.	LILO of both ckts of 765kV Varanasi – Kanpur (GIS) D/c at Fatehpur(30km)	Length – 30km
	Total Estimated Cost (Rs Crores)	12700

Note:

- (i) Developer of Bhadla-3 S/s to provide space 4nos. of 400kV bays at their substation
 - (ii) The line lengths mentioned above are approximate as the exact length shall be obtained after the detailed survey
2. CTUIL stated that at present 2824MW Stage-II connectivity applications granted at Ramgarh/Bhadla-3 PS, however no LTA application yet granted. For further dispersal of RE power from Ramgarh PS/Bhadla-3 PS, 765kV D/c HVAC corridor towards Sikar-2 and 6000MW HVDC corridor towards Fatehpur was agreed in 3rd NRPC(TP) meeting. However, due to longer time in implementation and higher cost of HVDC system, 765kV HVAC corridor towards Sikar-2 is to be taken up for implementation in first phase. It is emerged that when LTA at Ramgarh/Bhadla-3 PS is beyond 3500 MW, there shall be need for implementation of HVDC system additionally which may be reviewed in next NCT meeting based on LTA status at Ramgarh/Bhadla-3.
 3. Member (Power System), CEA, stated that it would be better to defer this scheme and simultaneously option of Battery Storage System could be explored which could reduce the requirement of HVDC lines. Accordingly, the revised proposal could be discussed in the next NCT meeting.
 4. POSOCO also stated that due to the uncertainty of GIB issue, it would be better to defer this scheme at this stage.
 5. After deliberations, NCT recommended that Transmission scheme “Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under phase III –Part I” may be deferred and to be reviewed in next NCT meeting.

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5.10.17 Name of Scheme: Transformer augmentation at various substations for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part J:

1. The scope of scheme is as under:

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	2 Augmentation with 400/220kV, 1x500MVA Transformer (10 th) at Fatehgarh-2 PS	400/220kV 500 MVA ICT:1 no 400 kV ICT bays – 1 nos. 220 kV ICT bays – 1 nos.
2.	3 Augmentation with 765/400kV, 1x1500MVA Transformer (5 th) at Bhadla-2 PS	765/400kV 1500 MVA ICT: 1 no. 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.
3.	4 Augmentation with 765/400kV, 1x1500MVA Transformer (3 rd) at Bikaner (PG)	765/400kV 1500 MVA ICT: 1 no 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.
4.	5 Augmentation of 1x500 MVA ICT (5 th), 400/220kV ICT at Fatehgarh-3 Substation (section-1*)	400/220kV 500 MVA ICT:1 no. 400 kV ICT bays – 1 no. 220 kV ICT bays – 1 no.
5.	6 Augmentation of 1x1500MVA ICT at 765/400kV Kanpur(GIS) substation	765/400kV 1500 MVA ICT: 1 no. 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.
6.	7 Augmentation of 1x1500 MVA ICT (3 rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)	765/400kV 1500 MVA ICTs : 1 no 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.

2. CTUIL stated that one of the pilot project of Battery Storage System of 250 MW is being planned at perspective location near Fatehgarh-3, therefore there might be a possibility that the 5th ICT of 500 MVA at Fatehgarh-3 S/s may not be required and hence this item needs to be reviewed. Also, augmentation of 1x1500MVA ICT at 765/400kV Kanpur(GIS) substation is linked with HVDC system (LILO of Varanasi-Kanpur at Fatehpur) and since the timeframe of HVDC has now been delayed, therefore, this item could also be taken up later.

3. After deliberations, NCT recommended the following:

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Name of the scheme/est. cost/schedule	Mode of implementation	Purpose /Justification
Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III –Part J Estimated Cost: Rs 225 Crore Implementation Timeframe: The Implementation timeframe of the package is linked with the implementation of various schemes under Phase-III.	RTM	For evacuation of RE power getting pooled at Fatehgarh-2, Bhadla-2, Bikaner (PG) and Jhatikara Substation.

4. Detailed scope of the scheme is given below:

“Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part J”

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation with 400/220kV, 1x500MVA Transformer (10 th) at Fatehgarh-2 PS	400/220kV 500 MVA ICT:1 no 400 kV ICT bays – 1 nos. 220 kV ICT bays – 1 nos.
2.	Augmentation with 765/400kV, 1x1500MVA Transformer (5 th) at Bhadla-2 PS	765/400kV 1500 MVA ICT: 1 no. 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.
3.	Augmentation with 765/400kV, 1x1500MVA Transformer (3 rd) at Bikaner (PG)	765/400kV 1500 MVA ICT: 1 no 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.
4.	Augmentation of 1x1500 MVA ICT (3 rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)	765/400kV 1500 MVA ICTs : 1 no 765kV ICT bays – 1no. 400 kV ICT bays – 1 no.

Note:

Implementation schedule of above transmission elements under Part J is as under:

- a) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS:
Implementation shall be taken up after LTA of 4490MW at 220kV level of Fatehgarh-2 (Presently 3660MW LTA granted at 220kV level of Fatehgarh-2)

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- b) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS : *At present 5945MW Stage-II connectivity applications and 2645MW LTA applications granted at Bhadla-2 PS. Implementation of 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS shall be taken up after receipt of LTA of about 4000MW at Bhadla-2 PS*
- c) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG) : *At present 3935MW Stage-II connectivity applications and 2975MW LTA applications granted at Bikaner/Bikaner-2 PS. Implementation of 1x1500MVA transformer (3rd) at Bikaner (PG) shall be taken up upon additional 1000MW (about) LTA at Bikaner(PG)/Bikaner-2 PS*
- d) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section): *Implementation shall be taken up after receipt of LTA at Bhadla-3 PS/Ramgarh PS matching with transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part D*

5.11 Name of Scheme: Creation of 400/220 kV, 2x315 MVA S/S at Siot, Jammu & Kashmir

1. Director, PSPA-1 stated that in the 3rd meeting of NRPC (TP) held on 19.02.2021, JKPTCL stated that they are in urgent requirement of a 400 kV substation at Siot as they are facing shortfall of transmission capacity in the areas of Jammu, Rajouri and Punch district. The proposed 400 kV substation would feed the areas near Akhnoor and Jammu region and the interconnection with Katra-II would also improve reliability of supply, considering the importance of Katra being a holy town with lots of visiting pilgrims. The substation would also provide relief from the low voltage issues at Draba/Chandak. The details of the scheme are as under:

Sl.No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 2x315MVA, 400/220kV Siot S/s with 1x125 MVAR (420 kV) bus reactors <i>Future provisions: Space for 400/220kV ICTs along with bays: 2 nos.</i> <i>400 kV line bays along with switchable line reactor: 4nos.</i> <i>220 kV line bays: 4 nos.</i>	400/220 kV, 315 MVA ICT – 2 nos. 400 kV ICT bays - 2 nos. 220 kV ICT bays - 2 nos. 400 kV line bays - 4 nos. 220 kV line bays - 6 nos. 125MVAR, 420kV bus reactor - 1 nos. 420 kV reactor bay - 1 nos.
2.	LILO of 400 kV D/c Amargarh (Kunzer)-Samba line at 400/220 kV Siot S/s	Length – 15 km

2. CTUIL opined that considering the transportation constraints due to difficult terrain,

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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 & Appraisal-I Division

सेवा में/To

-As per list enclosed-

**विषय/Subject: Minutes of 3rd Meeting of Northern Regional Power Committee
(Transmission Planning) [NRPC(TP)].**

Sir/ Madam,

Please find enclosed the minutes of the 3rd meeting of Northern Regional Power Committee (Transmission Planning) [NRPC(TP)] held on 19.02.2021 through VC. The minutes are also available on CEA's website: www.cea.nic.in (path to access: Home Page - Wing - Power System-PSPA-I- Standing Committee on Power System Planning- Northern Region).

Yours faithfully,

Signature Not Verified
Digitally signed by ISHAN SHARAN
Date: 2021.05.09 22:26:37 IST

(ईशान शरण/ Ishan Sharan)

मुख्य अभियन्ता/ Chief Engineer

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1.	Chairperson, CEA, Sewa Bhawan, New Delhi-110066	2.	Member (Power System), CEA, Sewa Bhawan, New Delhi-110066	3.	Member Secretary, NRPC, 18-A Shajeed Jeet Singh Sansanwal Marg, Katwaria Sarai, New Delhi - 110016 (Fax-011-26865206)
4.	MD, SECI, Prius Platinum, D-3, District Centre, Saket, New Delhi - 17	5.	COO (CTU) POWERGRID, Saudamini, Plot no. 2, Sector -29, Gurgaon-122 001 (Fax-0124-2571809)	6.	Chief GM(C&SO), SJVNL, Corporate Office Complex, Shanan, Shimla- 171006
7.	Director (PP&D) RVPN, 3 rd Floor, Room no 330, Vidhyut Bhawan, Janpath, Jaipur-302005.	8.	Director (Technical) HVPNL Shakti Bhawan, Sector-6 Panchkula-134109	9.	Director (Technical) HPSEB Ltd. VidutBhawan, Shimla -171004 Fax-0177-2813554
10.	Managing Director, HPPTCL, Barowalias, Khalini Shimla-171002 Fax-0177-2623415	11.	Chief Engineer (Operation) Ministry of Power, UT Secretariat, Sector-9 D Chandigarh -161009 Fax-0172-2637880	12.	Director (W &P) UPPTCL, Shakti Bhawan Extn,3rd floor, 14, Ashok Marg, Lucknow - 226 001 (Fax:0522-2287822)
13.	Director (Projects), PTCUL, Vidhyut Bhawan, Near ISBT Crossing, Saharanpur Road, Majra, Dehradaun-248002	14.	Director (System Operation), POSOCO B-9, Qutab Institutional Area, Katwaria Sarai New Delhi – 110010	15.	Chief Engineer (System & Operation Wing), JKPDD, Grid Substation Complex, Janipur, Jammu-180006
16.	Director (Technical), Punjab State Transmission Corporation Ltd. (PSTCL)Head Office The Mall Patiala - 147001	17.	Development Commissioner (Power), JKPDD, Jehangir Complex, Exhibition Grounds, Srinagar		

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Minutes of the 3rd Meeting of Northern Regional Power Committee (Transmission Planning) [NRPC(TP)] held on 19.02.2021:

List of participants is enclosed at **Annexure-A**.

- 1.0 Confirmation of the Minutes of the 2nd meeting of Northern Regional Power Committee (Transmission Planning) [NRPC(TP)] held on 01.09.2020**
- 1.1 CEA stated that the 2nd meeting of Northern Regional Power Committee (Transmission Planning) [NRPC(TP)] was held on 01.09.2020 and the minutes of the meeting had been issued vide CEA letter no. CEA-PS-11-21(19)/3/2019-PSPA-I Division dated 12.11.2020.
- 1.2 As no comments/observations were received from the constituents, the minutes of 2nd meeting of NRPC(TP) issued vide CEA letter no. CEA-PS-11-21(19)/3/2019-PSPA-I Division dated 12.11.2020 were confirmed.
- 2.0 Transmission System requirement for additional 20GW REZ in Northern Region (Phase-III)**
- 2.1** CEA stated that the transmission system for additional 20 GW REZ was envisaged in Rajasthan and was discussed in the 2nd meeting of NRPC(TP) held on 01.09.2020, wherein 2 alternatives were discussed, one with HVAC system and other with Hybrid system (HVAC+HVDC). After deliberations, it was decided that all the constituents would send their comments/suggestions and accordingly the same would be incorporated in the studies and would be deliberated in the next NRPC(TP) meeting.
- 2.2** Based on the load flow studies related observations received from POSOCO, Punjab, Haryana, Rajasthan and UP, revised system studies for 20 GW RE potential were carried out and two alternatives were proposed for evacuation of power from 20GW generations in Phase-III:

Alternative1 –HVAC

Proposed transmission system includes following transmission elements:

- i) Establishment of 8x500 MVA 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVar Bus Reactor
- ii) Establishment of 7x1500 MVA 765/400kV & 10x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVar Bus Reactor & 2x125 MVar Reactor
- iii) Establishment of 2x500 MVA, 400/220 kV pooling station at Ramgarh (ISTS) along with 2x125 MVar Bus Reactor (provision to upgrade at 765kV level)
- iv) Fatehgarh-3- Fatehgarh-4 400 kV 2xD/c(Quad) line (50 km)
- v) Fatehgarh 4 - Bhadla-3 400 kV D/c line(Quad) (200 km) along with 80 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 4 - Bhadla-3 400kV D/c line
- vi) Establishment of 2x1500MVA station at suitable location near Phulera along with 2x330 MVar Bus Reactor & 2x125 MVar bus Reactor
- vii) Ramgarh (ISTS) – Bhadla-3 765kV D/c line (180 km) (Charged at 400 kV) along with 80 MVar line reactor on both ends at each circuit
- viii) Bhadla-3 – Phulera 765 kV 2xD/c line (340 km) along with 330 MVar Switchable line reactor for each circuit at each end of Bhadla-3 – Phulera 765 kV 2xD/c line
- ix) Phulera- Sikar-II 765 kV D/c(90 Km)
- x) Phulera – Ajmer (PG) 400kV D/c line (Quad) (110km)
- xi) Sikar-II – Khetri 765 kV D/c line (90 Km)
- xii) Sikar-II – Narela 765 kV D/c line (260 Km) along with 240 MVar Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line

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- xiii) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)
- xiv) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS
- xv) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS
- xvi) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG)
- xvii) Jhatikara – Dwarka 400kV D/c line (Quad) (20km)
- xviii) Establishment of 7x1500 MVA 765/400kV & 5x500 MVA 400/220 kV pooling station at Fatehgarh-3 (section-2-new section) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVA_r, 765kV & 2x125 MVA_r, 400kV Bus Reactors
- xix) Augmentation of 1x500 MVA ICT (5th), 400/220kV ICT at Fatehgarh-3 Substation (section-1)
- xx) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Mathura along with 2x330 MVA_r Bus Reactor & 2x125 MVA_r Reactor
- xxi) Phulera – Mathura 765 kV D/c line (280 km) along with 1x240 MVA_r Switchable line reactor for each circuit at each end of Phulera – Mathura 765 kV D/c line
- xxii) Mathura – Mathura (UPPTCL) 400 kV D/c (quad) interconnection(10 km)
- xxiii) Mathura – Bareilly 765 kV D/c line (220 km) along with 1x240 MVA_r Switchable line reactor for each circuit at each end of Mathura – Bareilly 765 kV D/c line
- xxiv) Establishment of 765kV switching station at suitable location near Beawar along with 2x330 MVA_r 765 Bus Reactor
- xxv) Fatehgarh-3– Beawar 765 kV 2xD/c (350 km) along with 330 MVA_r Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line
- xxvi) LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
- xxvii) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVA_r Bus Reactor & 2x125 MVA_r Reactor
- xxviii) Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVA_r Switchable line reactor for each circuit at each end
- xxix) LILO of both circuits of Jaipur-Gwalior 765 kV D/c at Dausa along with 240 MVA_r Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line
- xxx) LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa along with 80 MVA_r Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line
- xxxi) STATCOM:
 - Fatehgarh – III S/s : STATCOM : ± 600 MVA_r, 4x125 MVA_r MSC , 2x125 MVA_r MSR
 - Bhadla–3 S/s : STATCOM : ± 600 MVA_r, 4x125 MVA_r MSC , 2x125 MVA_r MSR

Note:

1. Provision of suitable sectionalization shall be kept at Fatehgarh-3, Fatehgarh-4, Bhadla-3, Ramgarh (ISTS) pooling stations at 400kV & 220kV level to limit short circuit level
2. 400kV/220kV bays for termination of developer feeders are not considered under the present scope. It is assumed that bays to be implemented by applicant.
3. Reactive power support (both leading & lagging) from Solar Generation has been considered for 0.98 pf

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- vi) Ramgarh (ISTS) – Bhadla-3 765kV D/c line(180 km) (Charged at 400kV) along with 80 MVAR line reactor on both ends at each circuit
- vii) Bhadla-3 – Sikar-II 765 kV D/c line (350 km) along with 330 MVAR Switchable line reactor for each circuit at each end of Bhadla-3 – Sikar-II 765 kV D/c line
- viii) Sikar-II – Khetri 765 kV D/c line (90 Km)
- ix) Sikar-II – Narela 765 kV D/c line (260 Km) along with 240 MVAR Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line
- x) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)
- xi) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS
- xii) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS
- xiii) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG)
- xiv) Jhatikara – Dwarka 400kV D/c line (Quad) (20km)
- xv) Establishment of 7x1500 MVA 765/400kV & 5x500 MVA 400/220 kV pooling station at Fatehgarh-3 (section-2-new section) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVAR,765kV & 2x125 MVAR, 400kV Bus Reactors
- xvi) Augmentation of 1x500 MVA ICT (5th), 400/220kV ICT at Fatehgarh-3 Substation (section-1)
- xvii) Establishment of 765kV switching station at suitable location near Beawar along with 2x330 MVAR 765 Bus Reactor
- xviii) Fatehgarh-3– Beawar 765 kV 2xD/c (350 km) along with 330 MVAR Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line
- xix) LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
- xx) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVAR Bus Reactor & 2x125 MVAR Reactor
- xxi) Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVAR Switchable line reactor for each circuit at each end
- xxii) LILO of both circuits of Jaipur-Gwalior 765 kV D/c at Dausa (40km) along with 240 MVAR Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line
- xxiii) LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa (30km) along with 80 MVAR Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line
- xxiv) 5000MW, ± 500 KV VSC HVDC terminal at Bhadla-3 substation
- xxv) 5000MW, ± 500 KV, Fatehpur VSC HVDC terminal station at suitable location near Fatehpur
- xxvi) Establishment of 5x1500MVA, 765/400KV ICT at pooling station at suitable location near Fatehpur along with 2x330MVAR (765kV) bus reactor
- xxvii) ± 500 KV HVDC line (Quad lapwing-2 loops) between Bhadla-3 & Fatehpur (950km)
- xxviii) LILO of both ckts of 765kV Varanasi – Kanpur D/c at Fatehpur(30km)
- xxix) Augmentation of 1x1500MVA ICT 765/400kV at Kanpur 765kV substation

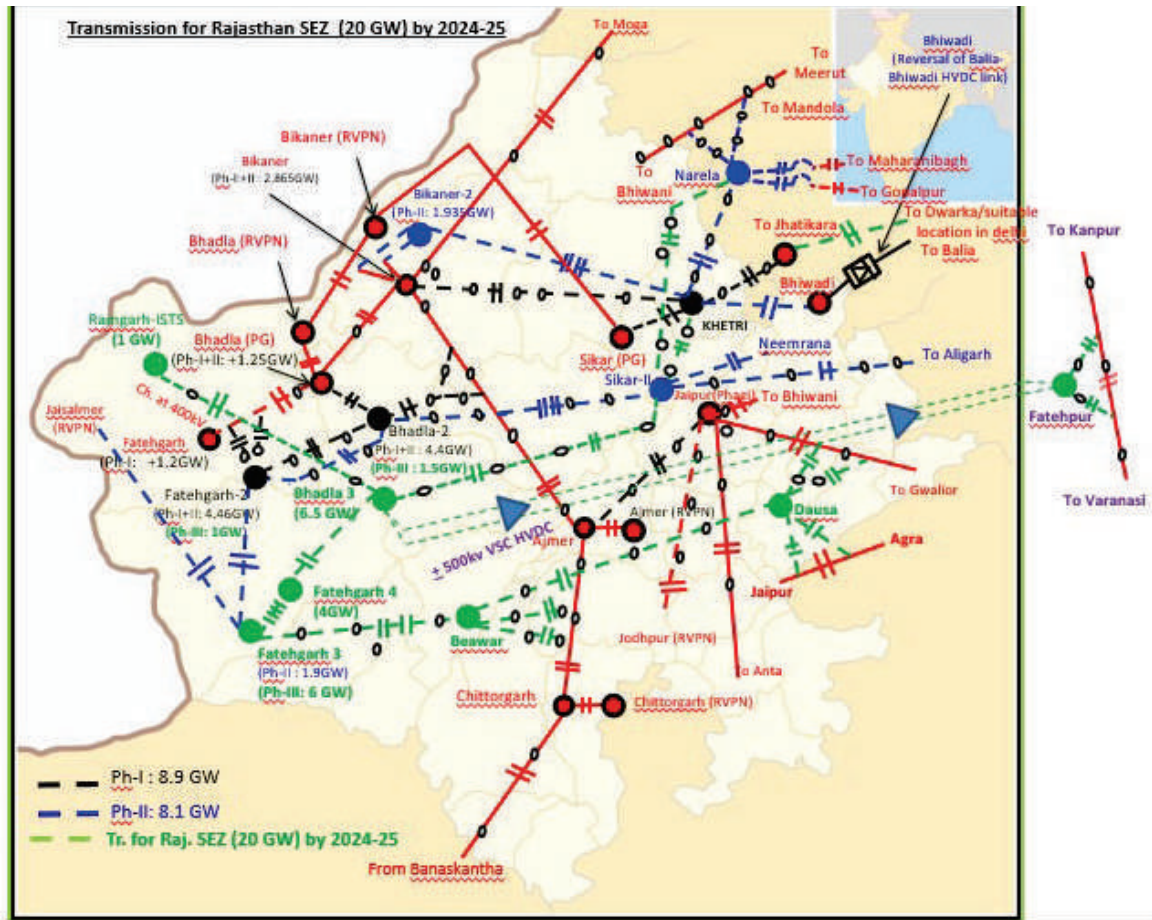
Note:

1. Provision of suitable sectionalization shall be kept at Fatehgarh-3, Fatehgarh-4, Bhadla-3, Ramgarh (ISTS) pooling stations at 400kV & 220kV level to limit short circuit level

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2. 400kV/220kV bays for termination of developer feeders are not considered under the present scope. It is assumed that bays to be implemented by applicant.
3. Reactive power support (both leading & lagging) from Solar Generation has been considered for 0.98 pf
4. Line loading limit of 765kV lines under N-1 contingency is considered as 3500MW.

Estimated Cost: Rs 25,900 Cr



2.3 The above proposed transmission system along with the load flow studies was shared with the constituents of Northern Region. Subsequently, to discuss the proposed system, a meeting was held on 22.01.2021 with the constituents in which following observations were shared by the constituents:

- (i) RVPN indicated that out of REZ Ph-III (20 GW) Solar Potential, 3 GW solar capacity shall be planned under Intra state transmission, therefore ISTS may be planned for balance 17 GW under REZ Ph-III. RVPN also submitted anticipated locations of additional 3 GW Solar capacity vide letter dated 25.01.21. In addition, merit order dispatches for intra state (Rajasthan) conventional generators, were also shared. In the meeting, SECI indicated that Inter-state transmission system should be planned for REZ Ph-III (20 GW) only and RVPN may plan additional system for 3 GW intra-state solar.
- (ii) SECI also indicated that evacuation for capacity of at least 2.9 GW at Ramgarh be planned under Phase III so as to match the total planned requirement of Phase-I, II &

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III at Ramgarh. SECI indicated that 1.9 GW of planned capacity under Phase -II was shifted to Fatehgarh area due to technical constraints of GIB area earlier. Accordingly, evacuation for additional capacity only for 9.1 GW at Fatehgarh area be planned under Phase -III so as to match the total planned requirement of Phase-I, II & III at Fatehgarh and Ramgarh capacity may be considered as 2.9 GW. This will equalize the distribution of capacity at different areas as intimated by SECI in Feb 2020 and nullify the impact due to shifting of Ramgarh to Fatehgarh area. Further, Stage-II connectivity for a capacity of 2 GW at Ramgarh is already granted by CTU and this area is also of high RE potential for solar, wind and hybrid.

- (iii) UPPTCL commented that though all their comments have been addressed but their anticipated peak demand of 31,500 MW for 2024-25 has not been considered to which CTU clarified that since UPPTCL encounters maximum demand in evening, above may be considered commensurate to evening peak scenario, however ratio of their afternoon & evening demand may be considered based on present trends. Accordingly, NRLDC/POSOCO was requested to share demand trends of all NR states for above scenario.
- (iv) POSOCO gave the following observations:
 - (a) Demand pattern of WR may be reconsidered as load in afternoon is relatively higher than in evening. Further, Solar generation in NR is considered as 100% whereas in other region as 60% and needs to be reviewed.
 - (b) In HVAC scenario, all 04 no. 765 kV lines from Bhadla-3 and Fatehgarh-3 are terminating at one station (Phulera in case of Bhadla-3 and Beawar in case of Fatehgarh-3). These lines are evacuating more than 8000 MW from respective stations and in case of complete outage of any of the stations, 400 kV system will not be sufficient and this may cause large disturbance. Same case will be the case for Fatehgarh-3 in HVDC alternative also.
 - (c) Dynamic studies especially in cases where angular separation is crossing 20 degrees under 'N-1' contingency may be carried out to ascertain system stability in the proposed schemes.
 - (d) In peak solar dispatch case, loading of 765 kV Phulera - Bhadla 2xD/C, 765 kV Fatehgarh 3 - Beawar 2xD/C and 765 kV Phulera - Mathura D/C is very high and angular separation between stations is crossing 20 degrees for all these lines under 'N-1' scenario.
 - (e) In the study cases, instead of individual ICTs at a particular station, the whole transformation capacity has been modelled as a single transformer thereby, making it difficult to identify 'N-1' noncompliance at some stations like 765/400 kV Jodhpur Kankani ICTs (2316 MW total), Bikaner (2051 MVA total), Narela (3400 MVA total) etc.
 - (f) High fault level (>40 kA) has been observed at several 400 kV buses of northern region. Same needs to be addressed.
 - (g) 0.98 lagging power factor has been considered for various solar generators in the complex which are providing reactive power support in study cases. However, in real-time, it has been observed that there is net MVAR drawl by solar generators.
 - (h) High loadings in base case:
 - 400 kV Bhinmal - Zerda is overloaded in both HVAC and HVDC solar peak cases. 400 kV Barmer- Bhinmal is also 'N-1' non-compliant.

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- 400 kV Singrauli - Anpara is overloaded in both HVAC and HVDC evening cases.
- 400/220 kV ICTs at several other locations such as Nakodar, Ludhiana, Sohna Road, Hindaun, Kota, Chittorgarh, Kashipur are 'N-1' non-compliant.

(v) On the above observations of POSOCO, CTU gave following clarifications:

- (a) Regarding POSOCO's observation that solar generation in NR has been considered as 100% whereas other region as 60%, CTU had clarified that dispatch level of solar generations considered in other regions are based on the decision taken while carrying out all-India Studies for integration of power from identified Renewable Energy Zones in 2021-22 with CEA & POSOCO in September/October, 2019. However, it was agreed that sensitivity studies would be carried out for higher solar dispatches (90-100%) in contiguous regions like WR/Gujarat for Solar peak scenario to assess the transmission system requirement. However, it is observed that this would require further ramp down of dispatched central sector thermal units upto 40-45% instead of earlier assumed value of 55% (technical minimum) as well as state sector (Intra) thermal generation to lower limits of 55-70% instead of earlier assumed value of 55-85%.
- (b) Regarding POSOCO's observation of the modelling of whole transformation capacity as a single transformer, CTU informed that it won't make any difference in load flow studies whether the transformers are modelled as 10 transformers of 500 MVA or one transformer of 5000 MVA. If all the transformers are individually modelled, then representing them in a PSS/E SLD drawing will be cumbersome and lot of overlapping will make it difficult to draw and understand. Therefore, for ease of representation and drawing clarity, transformers have been combined and represented as a single transformer with equivalent impedance. For identifying N-1 compliance, these transformers may be replaced by individual transformers and checked, if required.
- (c) Regarding mitigation measures for high fault level (>40 kA) at several 400 kV buses of northern region, CTU stated that in the 32nd SCSPSNR meeting, a number of series line reactors, series bus reactors and bus split arrangement at Bawana and Dadri were proposed in order to contain the short circuit level of the substations associated with NCR ring. After detailed deliberation, it was agreed that only Series line reactor (single phase unit of 75 MVAR, 12 ohms) of 400 kV Dadri-Mandola-I & II at Mandola end along with Series Bus reactor at Mandola & Ballabgarh end were agreed to be implemented under Phase-I and it was decided that rest of the proposed elements may be taken up after gaining operational experience. The above agreed series reactors have been commissioned. Further, in 44th NRPC meeting held on 19.03.2019, NRLDC indicated that commissioning of above reactors has brought down the three phase short circuit level at Dadri, Mandola & Ballabgarh by ~ 10, 20 & 14 kA respectively.

CTU further stated that subsequently, in 39th SCSPSNR meeting held on 29-30 May, 2017, issue of high short circuit level in various substations in NR was discussed. Accordingly, measures to control high short circuit level i.e. bus split arrangement, installation of series reactors and reconfiguration of feeders in seven pockets namely Delhi NCR, Meerut Area, Kanpur Area, Bhiwani Area, Singrauli Area, Lucknow Area and Agra were proposed. It was also suggested that reduction of short circuit level by reconfiguration of feeders, wherever suggested, is a least

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cost and least time taking solution and may be taken up for implementation immediately. The other measures suggested such as bus sectionalisation and series reactors may be taken for implementation subsequently in a phased manner. On this, CTU stated that corrective measure taken at one substation will have a dispersed effect in reducing short circuit current in neighbouring substation. It was further informed that if reactors are being implemented in a phased manner, the short circuit level may be higher than the study results and it will reduce further only when other proposed measures are taken up for implementation subsequently. After detailed deliberations, it was agreed to implement measures to control short circuit level in two pockets namely Kanpur and Bhiwani. However, if all the proposed measures in remaining areas shall be implemented, the issue of high short circuit level may be addressed.

- (d) Regarding high loading in Bhinmal-Zerda line, CTU informed that from studies, it emerged that loading of 400 kV Bhinmal-Zerda line is critically high due to injection from intra-state RE complex in western Rajasthan. It is observed that loading of Barmer-Bhinmal is mainly due to incremental intra-state RE generation in Jaisalmer, Barmer and Ramgarh area. According to information provided by RVPN, cumulative capacity of 5,600 MW of Wind and 4,700 MW of Solar generation will be connected to intra-state system mainly in Jaisalmer and Barmer district by 2024-25. The same is incorporated in study files as per RVPN data. The main evacuation path available for above intra- state RE generation is through Kankani/Jodhpur & Barmer. From the studies, it was observed that more power is rushing towards Bhinmal and causing overloading beyond Barmer/Bhinmal.

An additional case has been carried out in alternative-2 to observe impact of injection of power from Fatehgarh-3 to Jaisalmer-2, results of which are as under:

Case	Fatehgarh3-Jaisalmer2 400 kV Line Loading (MW)	Barmer Bhinmal 400 kV Line Loading (MW)
With Fatehgarh3-Jaisalmer-2 400 kV line	2x830	2x773; N-1 (1123)
Without Fatehgarh3-Jaisalmer-2 400 kV Line	NA	2x677; N-1 (987)

It was observed that even without injection from Fatehgarh-3 to Jaisalmer-2, 400 kV Barmer-Bhinmal (twin moose) line (144 km) & corridors beyond Bhinmal are critically loaded due to intra-state RE generation. For this, RVPN may need to evolve suitable strengthening in intra-state system. Additionally, 400/220 kV transformer augmentation at Chittorgarh (RVPN) is also required.

- (vi) PSTCL indicated that another scenario for minimum demand hours in Northern Region may also be carried out for above study period. Based on NRLDC/POSOCO inputs on demand patterns of NR, it was decided that morning lean hours having minimum demand with no solar generation shall be simulated to see the impact on thermal dispatches as well as voltage management issues.

2.4 Accordingly, based on above discussions, following redistribution of potential were carried out for further studies.

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S.No	Complex	Potential (Ph-III) - 20GW (2nd NRPCTP) (As per SECI)	Modified potential based in VC study meeting on 22.01.21 & CEA meeting on 29.01.21 (GW)	RE Pooling point	Modified Ph-III (20GW) Generation considered in studies (GW)
1	Bhadla	8	8	Bhadla	0
				Bhadla-2	1.5
				Bhadla-3	6.5
					8
2	Fatehgarh	11	9.1	Fatehgarh	0
				Fatehgarh-2	1
				Fatehgarh-3 (Section-2+ part sec-1)	6
				Fatehgarh-4	2.1
				Sub total	9.1
3	Bikaner	0	0	Bikaner	0
				Bikaner-2	0
4	Ramgarh	1	2.9	Ramgarh ISTS	2.9
		20	20		20

The studies were carried out for Rajasthan ISTS SEZ (37 GW) [Ph-1: 8.9 GW; Ph-II-8.1 GW; Ph-III: 20 GW] in Western Rajasthan. Additionally, Rajasthan Intra-State Solar addition of about 7.3 GW (total Solar capacity of about 10.4 GW) as well as 3.3 GW Inter - state Solar parks capacity was also considered in the studies.

Further redistribution of Ph-I&II (17 GW) generation considered based on St-II/LTA granted at Bhadla (PG), Bhadla-2, Fatehgarh-2, Bikaner & Bikaner-II pooling stations and any spill over generation granted on above pooling stations was adjusted from Ph-III potential.

- 2.5** In the meeting held on 22.01.2021, constituents had requested to carry out the load flow studies for lean period also along with afternoon and evening scenarios. Based on the above, studies were carried out again incorporating the observations of the constituents with the two alternatives in 3 scenarios i.e. afternoon, evening and morning lean hours having minimum demand. Also, as suggested by POSOCO, one more case was simulated with alternative-2 (Hybrid system EHVAC+HVDC) in the afternoon scenario with 100% solar dispatches from WR/Gujarat. Load flow studies for these seven cases were circulated by CEA vide email dated 16.02.2021 along with a note which contained proposed

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transmission system along with all the assumptions that were considered while carrying out the load flow studies.

- 2.6** Further, in view of higher SCR ratio at various buses, VSC v/s LCC HVDC technology was reviewed for further optimisation of techno-economics (VSC Converter is 30% costlier than LCC converter). It is seen that in view of the SCR of Bhadla-3 & Fatehgarh bus of 2.8 & 3.8 respectively, LCC HVDC technology may be considered. Further, to take care of voltage stability requirements, STATCOM at various buses may be planned along with LCC HVDC.

Based on the above, revised scheme proposed under both the alternatives are as under:

Alternative-1: EHVAC Proposal

- i) Establishment of 5x500 MVA 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVar Bus Reactor
- ii) Establishment of 5x1500 MVA 765/400kV & 10x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Reactor
- iii) Establishment of 3x1500 MVA 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh-1 along with 2x240 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus reactor
- iv) Fatehgarh-2 – Bhadla-3 400kV D/c line (Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 2- Bhadla-3 400kV D/c line (200 km)
- v) Fatehgarh-4 - Fatehgarh-3 400 kV 2xD/c(Quad) line (50 km)
- vi) Fatehgarh 3 - Bhadla-3 400 kV D/c line(Quad) (200 km) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 3 - Bhadla-3 400kV D/c line
- vii) Ramgarh - Bhadla-3 765kV D/c line(180 km) along with 240 MVar line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3 765kV D/c line
- viii) Establishment of 2x1500MVA station at suitable location near Phulera along with 2x330 MVar Bus Reactor & 2x125 MVar bus Reactor
- ix) Bhadla-3 – Phulera 765 kV 2xD/c line (340 km) along with 330 MVar Switchable line reactor for each circuit at each end of Bhadla-3 – Phulera 765 kV 2xD/c line
- x) Phulera- Sikar-II 765 kV D/c (90 Km)
- xi) Phulera – Ajmer (PG) 400kV D/c line (Quad) (110km)
- xii) Sikar-II – Khetri 765 kV D/c line (90 Km)
- xiii) Sikar-II – Narela 765 kV D/c line (260 Km) along with 240 MVar Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line
- xiv) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)
- xv) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS
- xvi) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS
- xvii) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG)
- xviii) Jhatikara – Dwarka 400kV D/c line (Quad) (20km)
- xix) Establishment of 7x1500 MVA 765/400kV & 5x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section*) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVar, 765kV & 2x125 MVar, 400kV Bus Reactors

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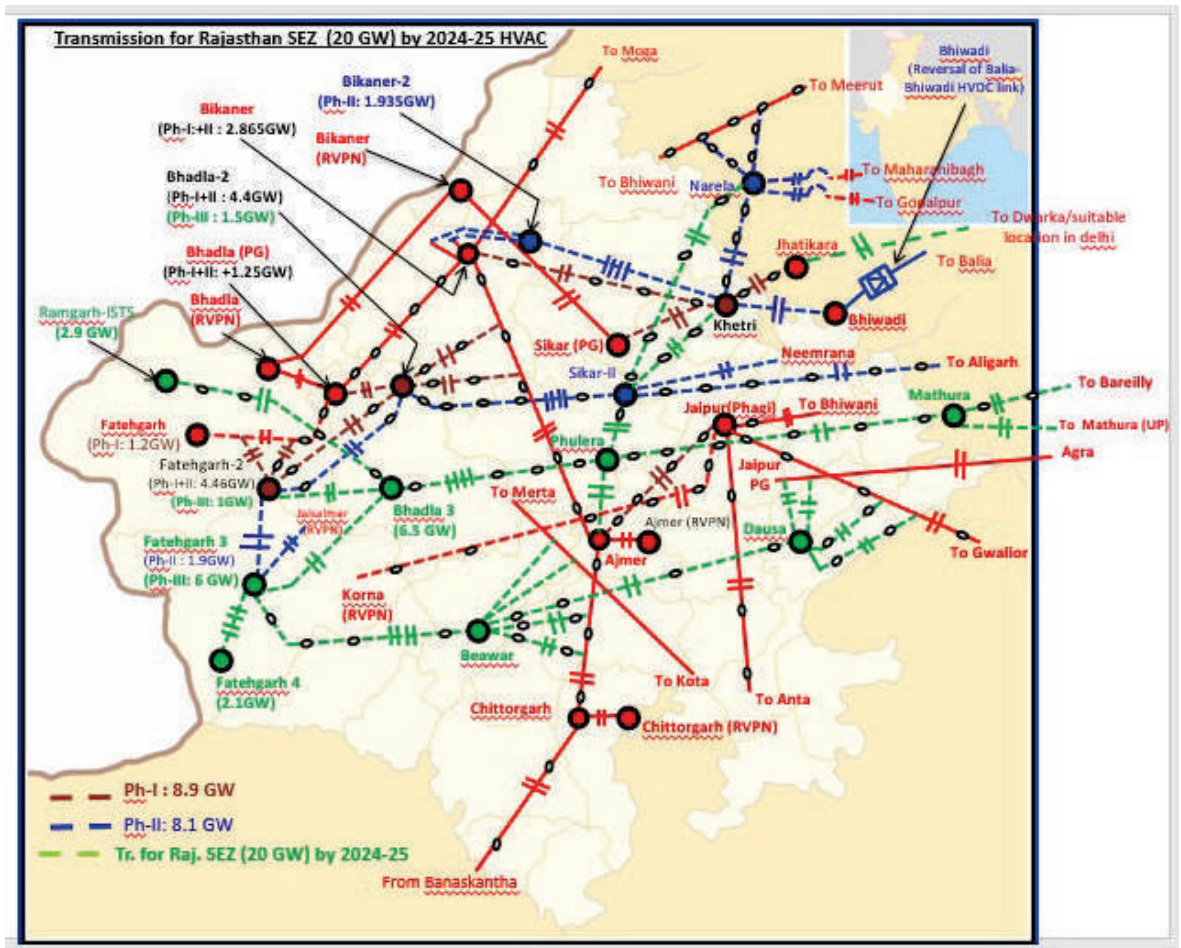
- xx) Augmentation of 1x500 MVA ICT (5th), 400/220kV ICT at Fatehgarh-3 Substation (section-1)
- xxi) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Mathura along with 2x330 MVA Bus Reactor & 2x125 MVA Reactor
- xxii) Phulera – Mathura 765 kV D/c line (280 km) along with 1x240 MVA Switchable line reactor for each circuit at each end of Phulera – Mathura 765 kV D/c line
- xxiii) Mathura – Mathura (UPPTCL) 400 kV D/c (quad) interconnection (10 km)
- xxiv) Mathura – Bareilly 765 kV D/c line (220 km) along with 1x240 MVA Switchable line reactor for each circuit at each end of Mathura – Bareilly 765 kV D/c line
- xxv) Establishment of 2x1500MVA 765/400kV Substation at suitable location near Beawar along with 2x330 MVA Bus Reactor & 2x125 MVA Reactor
- xxvi) Fatehgarh-3– Beawar 765 kV 2xD/c (350 km) along with 330 MVA Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line
- xxvii) LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
- xxviii) LILO of 400kV Kota –Merta line at Beawar (20 km)
- xxix) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVA Bus Reactor & 2x125 MVA Reactor
- xxx) Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVA Switchable line reactor for each circuit at each end
- xxxi) LILO of both circuits of Jaipur(Phagi)-Gwalior 765 kV D/c at Dausa along with 240 MVA Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line
- xxxii) LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa along with 50 MVA Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line
- xxxiii) Augmentation with 1x1500 MVA ICT (7th) at Fatehgarh-2 PS
- xxxiv) STATCOM:
 - Fatehgarh – 3 S/s : STATCOM : ± 600 MVA, 4x125 MVA MSC , 2x125 MVA MSR
 - Bhadla–3 S/s : STATCOM : ± 600 MVA, 4x125 MVA MSC , 2x125 MVA MSR

Note :

1. Provision of suitable sectionalization shall be kept at Fatehgarh-3, Fatehgarh-4, Bhadla-3, Ramgarh pooling stations at 400kV & 220kV level to limit short circuit level
2. Reactive power support (both leading & lagging) from Solar Generation has been considered for 0.98 pf
3. Line loading limit of 765kV lines under N-1 contingency is considered as 3500MW.
4. UPPTCL to confirm space provision for 2 nos. of 400kV bays and 400/220kV ICT (3rd) at Mathura or Replacement of one 315MVA ICT with 500MVA
5. RVPN to confirm space provision for 2 nos. of 400kV bays and 400/220kV ICT (3rd) at Chittorgarh (RVPN)
6. Fatehgarh-3 PS to be sectionalised

Estimated Cost: Rs 20,850 Cr

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Alternative-2 : EHVAC + HVDC (LCC)

- i) Establishment of 5x500 MVA 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVar Bus Reactor
- ii) Establishment of 2x1500 MVA 765/400kV & 10x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus Reactor
- iii) Establishment of 3x1500 MVA 765/400kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus reactor
- iv) Fatehgarh-2 – Bhadla-3 400kV D/c line (Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 2- Bhadla-3 400kV D/c line (200 km)
- v) Fatehgarh-4- Fatehgarh-3 400 kV 2xD/c(Quad) line (50 km)
- vi) Fatehgarh 3- Bhadla-3 400kV D/c line(Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 3- Bhadla-3 400kV D/c line (200 km)
- vii) Ramgarh – Bhadla-3 765kV D/c line(180 km) along with 240 MVar line reactor at each circuit at Ramgarh end of Ramgarh – Bhadla-3 765kV D/c line
- viii) Establishment of 2x1500MVA station at suitable location near Phulera along with 2x330 MVar (765kV) Bus Reactor & 2x125 MVar (420 kV) bus Reactor

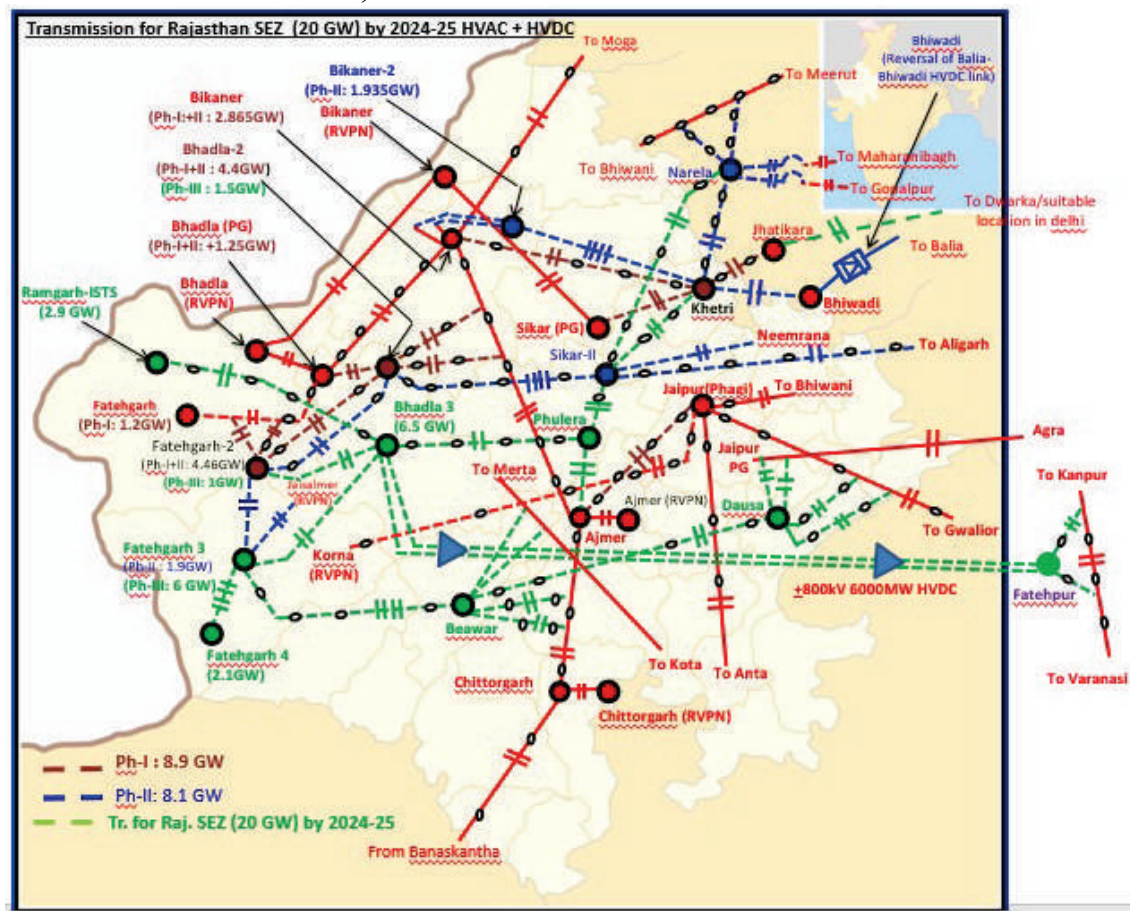
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- ix) Bhadla-3 – Phulera 765 kV D/c line (340 km) along with 330 MVA Switchable line reactor for each circuit at each end of Bhadla-3 – Phulera 765 kV D/c line
- x) Phulera- Sikar-II 765 kV D/c(90 Km)
- xi) Phulera – Ajmer (PG) 400kV D/c line (Quad) (110km)
- xii) Sikar-II – Khetri 765 kV D/c line (90 Km)
- xiii) Sikar-II – Narela 765 kV D/c line (260 Km) along with 240 MVA Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line
- xiv) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)
- xv) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS
- xvi) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS
- xvii) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG)
- xviii) Jhatikara – Dwarka 400kV D/c line (Quad) (20km)
- xix) Establishment of 6x1500 MVA 765/400kV & 5x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section*) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVA, 765 kV & 2x125 MVA, 420kV Bus Reactors
- xx) Augmentation of 1x500 MVA ICT (5th), 400/220kV ICT at Fatehgarh-3 Substation (section-1*)
- xxi) Establishment of 2x1500MVA 765/400kV Substation at suitable location near Beawar along with 2x330 MVA Bus Reactor & 2x125 MVA Reactor
- xxii) Fatehgarh-3– Beawar 765 kV 2xD/c (350 km) along with 330 MVA Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line
- xxiii) LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
- xxiv) LILO of 400kV Kota –Merta line at Beawar (20 km)
- xxv) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVA Bus Reactor & 2x125 MVA Reactor
- xxvi) Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVA Switchable line reactor for each circuit at each end
- xxvii) LILO of both circuits of Jaipur(Phagi)-Gwalior 765 kV D/c at Dausa (40km) along with 240 MVA Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line
- xxviii) LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa (30km) along with 50 MVA Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line
- xxix) 6000MW, ± 800 KV HVDC terminal at Bhadla-3 substation
- xxx) 6000MW, ± 800 KV HVDC terminal station at suitable location near Fatehpur (UP)
- xxxi) Establishment of 5x1500MVA, 765/400KV ICT at pooling station at suitable location near Fatehpur along with 2x330MVA (765kV) bus reactor
- xxxii) ± 800 KV HVDC line (Hexa lapwing) between Bhadla-3 & Fatehpur (950km)
- xxxiii) LILO of both ckts of 765kV Varanasi – Kanpur (GIS) D/c at Fatehpur(30km)
- xxxiv) Augmentation of 1x1500MVA ICT at 765/400kV Kanpur(GIS) substation
- xxxv) STATCOM :
 - Fatehgarh – III S/s : STATCOM : ± 600 MVA, 4x125 MVA MSC, 2x125 MVA MSR
 - Ramgarh/Bhadla-3 S/s : STATCOM : ± 600 MVA, 4x125 MVA MSC, 2x125 MVA MSR

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Note :

1. Provision of suitable sectionalization shall be kept at Fatehgarh-3, Fatehgarh-4, Bhadla-3, Ramgarh pooling stations at 400kV & 220kV level to limit short circuit level
2. Reactive power support (both leading & lagging) from Solar Generation has been considered for 0.98 pf
3. Line loading limit of 765kV lines under N-1 contingency is considered as 3500MW.
4. RVPN to confirm space provision for 2 nos. of 400kV bays and 400/220kV ICT (3rd) at Chittorgarh (RVPN)
5. Fatehgarh-3 PS to be sectionalised

Estimated Cost: Rs 26,300 Cr

- 2.7 PSTCL stated that in the meeting held on 22.01.2021, they had requested for the load flow study of lean period of all India and lean period of Northern region considering the lean period of Punjab. Loading in Punjab in lean period is around 3,000 MW, which occurs in the night time. In the day time also, load in Punjab is around 6,000 MW which increases to approx. 8000 MW in the evening. However, in the load flow studies of lean period, load in Punjab has been considered around 14,000 GW.
- 2.8 CTU stated that load of Punjab during lean period was not intimated in the joint study meeting held on 22.01.2021 as well as in the earlier comments given by PSTCL. However, as it has been intimated by PSTCL now, one more study could be carried out with the demand figures furnished by PSTCL.

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- 2.9** Rajasthan highlighted the issue of increase in fault level in intra-state network of RVPN with the proposed system for evacuation of 20 GW RE power.

CTU stated that with the implementation of the transmission network for injection of such a big quantum of RE power in Rajasthan, fault level in RVPN will surely increase. However, fault level in RVPN network is in limit at present which is expected to go beyond limit in 2024-25 scenario for which suitable measures will have to be taken.

2.10 POSOCO gave the following observations:

- (i) In order to assess the adequacy and reliability of the proposed transmission system, it is necessary that at least sixteen (16) scenarios (4 points on load curve for each season) on all- India case be simulated and studied. This point was also highlighted during planning of Ph-I & II REZ schemes in Rajasthan but same is yet to be studied while planning the regional transmission schemes. Along with this, the suggestion for carrying out stability studies and exploring the possibility of installing synchronous condensers was also given previously. These points may now be considered in Ph-III REZ transmission planning.
- (ii) The option of installing Battery Energy Storage System (BESS) as an alternative to transmission system may also be explored. A detailed communication in this regard has already been sent to CEA/CTU on 18th Feb 2021. Considering the numerous advantages of BESS over transmission system as highlighted in the communication, Battery Energy Storage System (BESS) may act as a better alternative to the conventional transmission system in the face of uncertainties, lower gestation period and falling prices.
- (iii) Regarding the hybrid HVDC-AC option for Ph-III, POSOCO stated that when the Phase-II proposals were being deliberated in May 2019, the HVDC terminal was considered at Modipuram in Uttar Pradesh. With the HVDC terminal at Fatehpur (UP) in the current proposal, the HVDC location has been shifted further 400-500 kilometers eastwards which might have possibly increased the cost of HVDC option. In case the storage alternative is evaluated, the STATCOMs too could be dispensed with. It was suggested that Rajasthan too could explore the feasibility of a similar arrangement for their intra- state RE transmission system.
- (iv) POSOCO also stated that planning of transmission schemes for Ph-I & II REZ across the country was carried out keeping in view the commissioning time-frame of 2021-22. However, at present, even regulatory approval for the Ph-I & II REZ schemes in Southern region has not been received. Further, stage-II connectivity for only 0.3 GW against potential of 18.5 GW in SR has been granted till date. Any delay in the commissioning of the envisaged generation may result in change in all-India LGB as well as inter-regional flows. Further, from the discussions, it is emerging that there could be high certainty of 40 GW generation coming up in Bhadla region of Rajasthan compared to other RE projects in rest of the country. This might require further system strengthening in parts of the network so that congestion and RE curtailment is minimized. Therefore, in view of high uncertainty in the spatial and temporal distribution of RE generation, it is of utmost importance that the transmission system for the same is reviewed periodically. The inputs of SECI from time to time regarding status of RE projects will also be required for this exercise so that a reliable transmission system can be planned which would ensure minimal congestion and minimal RE curtailment.
- (v) POSOCO further stated that as per the transmission planning criteria, *"A stuck breaker condition shall not cause disruption of more than four feeders for the 220kV system and two feeders for the 400kV system and 765kV system"*. As large quantum

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of RE generation is getting pooled at a single station in the proposed transmission schemes, it is necessary that the need for bus sectionalising arrangement be studied thoroughly and indicated in the RPC(TP) minutes. This will help in minimizing loss of generation/elements in case of any stuck breaker condition at one end and will also avoid any gap in implementation of schemes when bids are floated for TBCB.

- 2.11** Regarding POSOCO's observation to carry out load flow studies for at least sixteen (16) scenarios (4 points on load curve for each season), CTU clarified that during the previous all- India studies carried out by CEA, CTU and POSOCO, it was agreed that instead of sixteen, nine scenarios may be carried as scenario of October and February is almost similar and the same was recorded in the minutes 1st SPRC(TP) meeting. Regarding synchronous condensers, CTU stated that synchronous condenser would be very useful in providing system inertia as well as reactive compensation/voltage stability in high solar penetration scenario, however, some western Rajasthan pooling stations already have high short circuit (near to designed capacity) level, which will further increase with placement of synchronous condenser. Therefore, it is suggested to place the synchronous condenser far from the western Rajasthan solar pockets.
- 2.12** Regarding POSOCO's observation of increase in the cost of the scheme due to consideration of HVDC terminal at Fatehpur rather than Modipuram which was deliberated in May 2019 for Phase-II scheme, CTU clarified that HVAC corridors are already planned/under implementation in Rajasthan SEZ (Ph-I/II/III) towards Narela, Jhatikara and Aligarh to feed the demand of Delhi/UP, however, in solar peak/low thermal scenario, feed towards southern Uttar Pradesh will optimally utilize the 765 kV transmission system as well as meet the demand of south UP/ eastern region. Regarding the bus sectionalisation, CEA mentioned that during the preparation of detailed scope of works for National Committee on Transmission, proper bus sectionalisation has been considered for Ph-I and Ph-II scheme. The same would also be considered in Phase-III scheme.
- 2.13** RVPN suggested that in the alternative 2 i.e. hybrid HVAC and HVDC system, only one HVDC line has been considered. One more alternative may be explored with two or more HVDC lines.
- 2.14** Chief Engineer (PSPA-I), CEA, opined that in the proposed alternative 2, one HVDC line has been planned for 6 GW, which has caused an increase of around Rs 6000 crore compared to HVAC system. If more number of HVDC lines would be planned, it would increase the cost even more and would not be commercially viable.
- 2.15** RVPN further suggested that power from Bhadla-3 to Phulera is going towards Sikar-II only. Also, distance from Bhadla-3 to Phulera and Sikar-II is almost similar, therefore Phulera substation can be avoided and Sikar-II can be directly connected to Bhadla-3 and in case need arises in future, Phulera substation can be created with LILO of Bhadla-3- Sikar-II line.
- 2.16** CTU stated line length of Bhadla-3 – Sikar -II line is expected to be approx. 380 km. However, as the location of Bhadla-3 is not fixed yet, therefore, the line length may increase or decrease. Therefore, it would be better to defer the implementation of Phulera substation at present and we can proceed with the proposal of Bhadla-3- Sikar II line. With the firming up of location of Bhadla-3 substation, Phulera substation can be planned, if needed.
- 2.17** RVPN and PSTCL also suggested that the option of installing Battery Energy Storage System (BESS) should be explored.
- 2.18** SECI stated that the presently the cost of battery is high, therefore, the same has not been proposed in the present 20GW generation projects, however, the same may be considered in future projects when the cost of battery would come down.

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- 2.19** CEA suggested that a number of studies have been carried out for the proposed transmission system. As discussed earlier, the HVDC+HVAC transmission alternative proposed may be agreed broadly. The additional studies as requested by PSTCL, RVPN and POSOCO may be carried out and shared with the constituents. Based on the studies any augmentation required may be incorporated and accordingly, incorporated in the minutes of the meeting.
- 2.20** Accordingly, the additional system studies were carried out considering Alternative-II i.e. HVDC+HVAC, no major constraints were observed in the studies. These additional system studies were circulated to the members of NRPC(TP) vide CEA email dated 09.04.2021 and members were requested to furnish their input within one week's time. No observations were received from the members in the stipulated time.
- 2.21** Regarding the suggestion by constituents on installation of Battery Energy Storage System (BESS) for deferment of transmission system, CTU carried out an analysis on capacity of Storage requirement (MW & MWh) and the cost of transmission system deferred due to installation of BESS for Rajasthan Phase-III system for both HVAC and HVDC alternatives. The same was shared with POSOCO and CEA vide e-mail dated 10.04.2021. Similar analysis was also carried out by CEA which was shared with constituents vide email dated 09.04.2021. From the analysis, it emerged that at the present cost level of BESS, its application for transmission deferral is not economical as establishment cost of BESS is much higher than the cost savings due to deferment of transmission system.
- 2.22** Based on the above, following transmission system was agreed for evacuation of power from additional 20 GW REZ in Rajasthan (Phase-III):
- i) Establishment of 5x500 MVA 400/220 kV pooling station at Fatehgarh-4 along with 2x125 MVar Bus Reactor
 - ii) Establishment of 2x1500 MVA 765/400kV & 10x500 MVA 400/220 kV pooling station at Bhadla-3 along with 2x330 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus Reactor
 - iii) Establishment of 3x1500 MVA 765/400 kV & 2x500 MVA 400/220 kV pooling station at Ramgarh along with 2x240 MVar (765kV) Bus Reactor & 2x125 MVar (420kV) Bus reactor
 - iv) Fatehgarh-2 – Bhadla-3 400 kV D/c line (Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 2- Bhadla-3 400 kV D/c line (200 km)
 - v) Fatehgarh-4- Fatehgarh-3 400 kV 2xD/c twin HLTS line (50 km)
 - vi) Fatehgarh 3- Bhadla-3 400kV D/c line (Quad) along with 50 MVar Switchable line reactor for each circuit at both ends of Fatehgarh 3- Bhadla-3 400kV D/c line (200 km)
 - vii) Ramgarh – Bhadla-3 765kV 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
 - viii) Bhadla-3 – Sikar-II 765 kV D/c line (380 km) along with 330 MVar Switchable line reactor for each circuit at each end of Bhadla-3 – Sikar-II 765 kV D/c line
 - ix) Sikar-II – Khetri 765 kV D/c line (90 Km)
 - x) Sikar-II – Narela 765 kV D/c line (260 Km) along with 240 MVar Switchable line reactor for each circuit at each end of Sikar-II – Narela 765 kV D/c line
 - xi) Augmentation of 1x1500 MVA ICT (3rd), 765/400kV ICT at Jhatikara Substation (Bamnoli/Dwarka section)
 - xii) Augmentation with 400/220kV, 1x500MVA Transformer (10th) at Fatehgarh-2 PS
 - xiii) Augmentation with 765/400kV, 1x1500MVA Transformer (5th) at Bhadla-2 PS
 - xiv) Augmentation with 765/400kV, 1x1500MVA Transformer (3rd) at Bikaner (PG)

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- xv) Jhatikara – Dwarka 400kV D/c line (Quad) (20km)
- xvi) Establishment of 6x1500 MVA 765/400kV & 5x500 MVA 400/220 kV pooling station at Fatehgarh-3 (new section*) (In addition to 4x500 MVA ICT proposed under Rajasthan SEZ Ph-II-of Section-1) along with 2x330 MVA, 765kV & 2x125 MVA, 420kV Bus Reactors
- xvii) Augmentation of 1x500 MVA ICT (5th), 400/220kV ICT at Fatehgarh-3 Substation (section-1*)
- xviii) Establishment of 2x1500MVA 765/400kV Substation at suitable location near Beawar along with 2x330 MVA, 765 kV Bus Reactor & 2x125 MVA, 420 kV Bus Reactor
- xix) Fatehgarh-3– Beawar 765 kV 2xD/c (350 km) along with 330 MVA Switchable line reactor for each circuit at each end of Fatehgarh-3– Beawar 765 kV D/c line
- xx) LILO of both circuit of Ajmer-Chittorgarh 765 kV D/c at Beawar (45 km)
- xxi) LILO of 400kV Kota –Merta line at Beawar (20 km)
- xxii) Establishment of 2x1500 MVA 765/400kV substation at suitable location near Dausa along with 2x330 MVA 765 kV Bus Reactor & 2x125 MVA, 420 kV Bus Reactor
- xxiii) Beawar – Dausa 765 kV D/c line (240 km) along with 240 MVA Switchable line reactor for each circuit at each end
- xxiv) LILO of both circuits of Jaipur (Phagi)-Gwalior 765 kV D/c at Dausa (40km) along with 240 MVA Switchable line reactor for each circuit at Dausa end of Dausa – Gwalior 765 kV D/c line
- xxv) LILO of both circuits of Agra – Jaipur(south) 400kV D/c at Dausa (30km) along with 50 MVA Switchable line reactor for each circuit at Dausa end of Dausa – Agra 400kV D/c line
- xxvi) 6000MW, ± 800 KV HVDC terminal at Bhadla-3 substation
- xxvii) 6000MW, ± 800 KV HVDC terminal station at suitable location near Fatehpur (UP)
- xxviii) Establishment of 5x1500MVA, 765/400KV ICT at pooling station at suitable location near Fatehpur along with 2x330MVA (765kV) bus reactor
- xxix) ± 800 KV HVDC line (Hexa lapwing) between Bhadla-3 & Fatehpur (950km)
- xxx) LILO of both ckts of 765kV Varanasi – Kanpur (GIS) D/c at Fatehpur(30km)
- xxxi) Augmentation of 1x1500MVA ICT at 765/400kV Kanpur(GIS) substation
- xxxii) STATCOM:
 - Fatehgarh – 3 S/s : STATCOM : ± 600 MVA, 4x125 MVA MSC, 2x125 MVA MSR
 - Ramgarh S/s : STATCOM : ± 600 MVA, 4x125 MVA MSC, 2x125 MVA MSR
- xxxiii) Provision for suitable space for future scope at various substations
- xxxiv) Provision of spare single phase 765/400kV, 500 MVA transformers and spare 765 kV single phase 80 MVA/110 MVA reactor at Bhadla-3, Ramgarh, Dausa, Fatehgarh-3 (new section*), Fatehpur and Beawar substation.

The above transmission system would be implemented in phases based on grant of LTA by CTU.

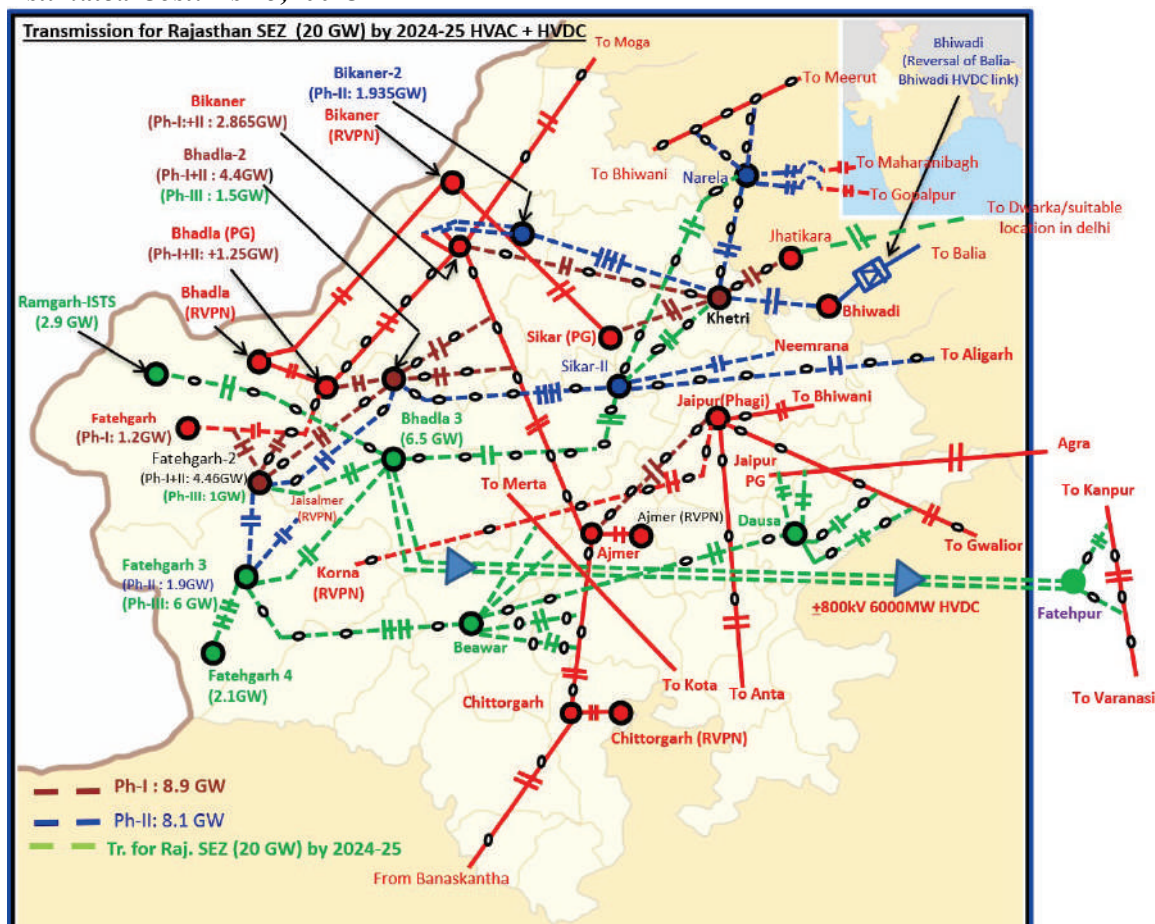
Note :

1. Provision of suitable sectionalization shall be kept at Fatehgarh-3, Fatehgarh-4, Bhadla-3, Ramgarh pooling stations at 400kV & 220kV level to limit short circuit level

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2. Reactive power support (both leading & lagging) from Solar Generation has been considered for 0.98 pf
3. Line loading limit of 765kV lines under N-1 contingency has been considered as 3500 MW.
4. RVPN to confirm space provision for 2 nos. of 400 kV bays and 400/220 kV ICT (3rd) at Chittorgarh (RVPN)
5. *Fatehgarh-3 PS to be sectionalised. STATCOM to be placed at new section of Fatehgarh-3 PS from where phase-III scheme emanating.

Estimated Cost: Rs 25,400 Cr



3.0 Creation of 400/220 kV, 2x315 MVA S/S at Siot (earlier Akhnoor/Rajouri) as ISTS:

- 3.1 Director (PSPA-I), CEA stated that proposal for creation of Akhnoor substation was deliberated in 36th meeting of Standing Committee on Power System Planning in Northern Region held on 13th July, 2015, wherein it had been decided that JKPDD/JKPTCL should plan downstream system so that 400 kV substation may be utilized properly. Subsequently, JKPDD/JKPTCL had submitted a comprehensive transmission plan for Jammu Region which inter-alia included establishment of 400/220 kV, 2x315 MVA S/s at Akhnoor/Rajouri as ISTS works with the following downstream transmission system:

Works proposed under ISTS:

- i) Establishment of 2x315MVA, 400/220kV Akhnoor/Rajouri S/s with 4nos. of 400kV line bays and 6nos. of 220kV line bays

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Annexure A**List of participants:**

S. No.	Name (Smt/Shri/Ms)	Designation
CEA		
1	Goutam Roy	Chief Engineer (PSPA-I)
2	Ishan Sharan	Chief Engineer
3	Manjari Chaturvedi	Director
4	Nitin Deswal	Asst. Director
5	Kanhaiya Singh Kushwaha	Asst. Director
NRPC		
6	Naresh Bhandari	MS
CTU		
7	Subir Sen	COO (CTU)
8	Ashok Pal	CGM (CTU)
9	Kashish Bhambhani	SR DGM (CTU)
SECI		
10	R.K.Aggarwal	Consultant
POSOCO		
11	S.R. Narsimhan	Director System Operation
12	NallarasanNagarathinam	Chief General Manger
13	Rajeev Porwal	GM
UPPTCL		
14	Anil Jain	Director (Planning & Commercial)
JKPTCL, Jammu		
15	Sudhir Gupta	CE(Trans)
PSTCL		
16	Sanjeev Gupta	CE/TS
RVPN		
17	Sudhir Jain	SE(P&P)
18	Sona Shishodia	Xen (P& P)
HPPTCL		
19	Arun Goyal	Director (Projects)
20	Sandeep Kumar	GM
PDD Ladakh		
21	Ghulam Ahmed Meer	Chief Engineer (Distribution)
DTL		
22	Pramod Kumar	Asstt. Manager (Tech)
THDC		
23	L P Joshi	DGM
HVPNL		
24	Pushpendra Singh	SE/Planning
25	B.K. Bhargava	XEN
26	K. K. Sarkar	XEN
27	Deepak Sarit	XEN
28	Sachin Goyal	AE

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S. No.	Name (Smt/Shri/Ms)	Designation
NTPC		
29	Subhash Thakur	AGM
HPSLDC		
30	Ravinder Kumar	SEE
31	Sunandan Kumar	SEE
SJVN		
32	Sushil Sharma	Director (Electrical)
33	S. P. Pathak	Chief General Manager
34	Romesh Kumar Kapoor	Chief General Manager
35	AmanKatoch	Deputy General Manager
CVPPPL		
36	Amrik Singh	GM
37	Sandhya Gupta	Manager
PTCUL		
38	Anil Kumar	Director (Projects)
POWERGRID		
39	Anoop Singh	Sr GM



सत्यमेव जयते

भारत सरकार

Government of India

विद्युत मंत्रालय

Ministry of Power

उत्तर क्षेत्रीय विद्युत समिति

Northern Regional Power Committee

सं. उ.क्षे.वि.स./वाणिज्यिक/209/ आरपीसी (49^{वीं})/2021/ 10880-10974
No. NRPC/Comm/209/ RPC (49th)/2021/

दिनांक : 25 नवंबर, 2021

Dated: 25 November, 2021

सेवा में / To,

उ.क्षे.वि.स. के सभी सदस्य

Members of NRPC/TCC

विषय: उत्तर क्षेत्रीय विद्युत समिति की 49^{वीं} तथा तकनीकी समंवय उप-समिति की 47^{वीं} बैठक-कार्यवृत्त।

Sub: 49th meeting of NRPC and 47th meeting of TCC – Minutes.

महोदय / महोदया,

उत्तरी क्षेत्रीय विद्युत समिति की 49^{वीं} बैठक दिनांक 27 सितम्बर, 2021 को तथा तकनीकी समंवय उप-समिति की 47^{वीं} बैठक दिनांक 23 व 24 सितम्बर, 2021 को विडियो कॉन्फ्रेंसिंग के द्वारा आयोजित की गयी थी। इन बैठकों के कार्यवृत्त की प्रति आपकी सूचना व आवश्यक कार्यवाही हेतु इस पत्र के साथ संलग्न है।

The 49th meeting of NRPC was held on 27th September, 2021 and 47th meeting of TCC was held on 23rd and 24th September, 2021 via video-conferencing. A copy of the minutes of the meetings is enclosed herewith for your information and necessary action.

भवदीय/Yours faithfully,

न. भंडारी

(नरेश भण्डारी)

(Naresh Bhandari)

सदस्य सचिव

Member Secretary

25.11.21

List of NRPC Members

1. Managing Director, PTCUL, Dehradun-248001, (Fax- 0135-2764496)
2. MD, UPPTCL, Lucknow-226001, (Fax-0522-2287792)
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12. Managing Director, IPGCL, New Delhi-110002, (Fax-011-23275039)
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15. Representative of DHBVNL (Haryana Discom)
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30. Director (Technical), NHPC, Faridabad-121003, (Fax-0129-2258025)
31. Director (Finance), NPCIL, Mumbai-400094, (Fax-022-25563350)
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39. CEO, Jhajjar Power Ltd., Haryana, (Fax-01251-270105)
40. Representative of Lanco Anpara Power Ltd., (Fax-124-4741024)
41. Station Director, Rosa Power Supply Company Ltd., (Fax-05842-300003)
42. Director and head regulatory and POWER Sale, JSW Energy Ltd., New Delhi (Fax- 48178740)
43. COO, Adani Power Rajasthan Ltd., Ahmedabad-380006 (Fax No- 07925557176)
44. COO, Talwandi Sabo Power Ltd. Distt: Mansa, Punjab-151302(Fax: 01659248083)
45. MD, Lalitpur Power Generation Company Ltd., Noida-201301(Fax: 01204045100/555, 2543939/40)
46. Director (Commercial & Operations), PTC India Ltd., New Delhi (Fax- 01141659144,41659145)
47. CEO, Nabha Power Limited, (Fax: 01762277251 / 01724646802)
48. Representative of Prayagraj Power Generation Co. Ltd.
49. Representative of Greenko Budhil Hydro Power Private Limited (Member IPP<1000 MW)
50. Representative of TPDDL (Delhi Private Discom)

Special Invitee:

- i. Member Secretary, WRPC, Mumbai-400 093.
- ii. Member Secretary, SRPC, Bangalore-560 009
- iii. Member Secretary, ERPC, Kolkata-700 033.
- iv. Member Secretary, NERPC, Shillong-793 003.

List of TCC Members

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41. Addl. Vice President, Rosa PSCL , (Fax-05842-300003)
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47. Head (O&M), Nabha Power Limited, (Fax: 01762277251 / 01724646802)
48. Representative of Prayagraj Power Generation Co. Ltd.
49. Representative of Greenko Budhil Hydro Power Private Limited (Member IPP<1000 MW)
50. Representative of TPDDL (Delhi Private Discom)
51. CEO, Meja Urja Nigam (P) Limited, Prayagraj

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developers at Bhadla (PG) S/s against the planned transformation capacity of 3500MVA. Hence, additional 1x500 MVA, 400/220kV ICT (8th) at Bhadla Pooling Station as strengthening scheme for meeting the n-1 criteria has been agreed in the 2nd meeting of NRPCTP.

B.6.5.3. TCC recommended scheme as strengthening scheme for approval of NRPC.

B.6.6 1x80MVA_r switchable Line reactor on each circuit at Khetri end of Bikaner-II – Khetri 400 kV 2xD/c Line

B.6.6.1. CTU informed that Transmission system strengthening scheme for evacuation of power from solar energy zones in Rajasthan (8.1 GW) under Phase-II was agreed in 46th NRPC meeting held on 24.09.2019. The scheme also includes:

- i. Establishment of 400/220 kV, 6x500 MVA Pooling Station at Bikaner–II PS with suitable bus sectionalisation at 400 kV and 220 kV level and with 400kV (2x125 MVAR) bus reactor
- ii. Bikaner-II PS – Khetri 400 kV 2xD/c line (Twin HTLS* on M/c Tower)
- iii. 1x80MVA_r switchable Line reactor on each circuit at Khetri end of Bikaner-II – Khetri 400 kV 2xD/c Line
- iv. 4 no. of 400 kV line bays at Khetri for Bikaner–II PS – Khetri 400kV 2xD/c line
- v. Khetri- Bhiwadi 400 kV D/c line (Twin HTLS)
- vi. 2 no. of 400 kV line bays at Khetri for Khetri - Bhiwadi 400kV D/c line
- vii. 2 no. of 400 kV (GIS) line bays at Bhiwadi for Khetri- Bhiwadi 400 kV D/c line
- viii. STATCOM at Bikaner–II S/s

B.6.6.2. However, due to space constraints at Khetri S/s, it was agreed in 2nd NRPCTP meeting that in place of 1x80MVA_r switchable Line reactor on each circuit at Khetri end of Bikaner-II – Khetri 400 kV 2xD/c Line, 1x80MVA_r fixed line reactors would be installed.

B.6.6.3. TCC recommended scheme for approval of NRPC.

NRPC Deliberations

B.6.7 NRPC approved above schemes which were deliberated in 2nd Northern Regional Power Committee (Transmission Planning) meeting held on 01.09.2020.

B.7 Schemes agreed in 3rd Northern Regional Power Committee (Transmission Planning) meeting held on 19.02.2021 (Agenda by CTU)

TCC Deliberations

Following schemes were deliberated in the TCC meeting which were agreed in 3rd Northern Regional Power Committee (Transmission Planning) meeting held on 19.02.2021:

B.7.1 Transmission System requirement for additional 20GW REZ in Northern Region (Phase-III)

- B.7.1.1 TCC was apprised about Transmission System requirement for additional 20GW REZ in Northern Region (Phase-III) which was agreed in 3rd NRPC (TP) meeting held on 19.02.2021. Scheme details is in agenda.
- B.7.1.2 It was highlighted that PSTCL has submitted comments on the studies carried out by CEA and CTU. Further, point wise reply was given by CTU on the comments of Punjab. Director (PSTCL) was satisfied with the above response of CTU with no further comments.
- B.7.1.3 TCC recommended scheme for approval of NRPC.

B.7.2 Creation of 400/220 kV, 2x315 MVA S/S at Siot (earlier Akhnoor/Rajouri) as ISTS (Agenda by CTU)

- B.7.2.1 CTU informed that proposal for creation of 400/220 kV, 2x315 MVA S/S at Siot (AIS) under ISTS as a system strengthening scheme has been agreed in 3rd NRPCTP meeting with timeline as March, 2024. The scheme is also posed to 5th NCT meeting for approval. The detailed scope is as given below:
 - Establishment of 2x315 MVA, 400/220kV Siot S/ s with 1x125 MVAR, 420 kV bus reactor, 4 nos. of 400kV line bays and 6 nos. of 220kV line bays
 - LILO of both circuits of 400 kV D/c Amargarh (Kunzer)- Samba line at 400/220 kV Siot S/s
- B.7.2.2 It was also informed that steps to mitigate the issue of low voltages in J&K would be taken up by power department of J&K who will also complete their downstream network for drawl as per the timeline of establishment of Siot S/s i.e. Mar'24.
- B.7.2.3 CTU further informed that in 5th NCT meeting held on 25.08.2021 & 02.09.21, (MoM awaited), 7X105MVA ICTs along with 1x80MVA Bus Reactor (420kV) have been decided to be implemented instead of 2X315MVA & 1x125MVA bus reactor due to transportation constraint in hilly terrain.
- B.7.2.4 TCC recommended scheme as system strengthening scheme (subject to decision in the MoM of 5th NCT reg. single phase units of transformer & bus reactor) for approval of NRPC.

B.7.3 Handing over of 400 kV D/c Khandukhal-Rampura line and 220 kV D/c Mori-Dehradun line of PTCUL under UITP scheme (deemed ISTS) to



सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड

(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड के स्वामित्व में)

(भारत सरकार का उद्यम)

CENTRAL TRANSMISSION UTILITY OF INDIA LTD.

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

(A Government of India Enterprise)

Ref: CTU/N/00/CMETS_NR/41

Date: 06-11-2025

As per distribution list

Subject: 41st Consultation Meeting for Evolving Transmission Schemes in Northern Region-Minutes of Meeting

Dear Sir/Ma'am,

Please find enclosed the minutes of the 41st Consultation Meeting for Evolving Transmission Schemes in Northern Region held on 10th October 2025 (Friday) through virtual mode.

The minutes are also available at CTU website (www.ctuil.in)

Thanking you,

Yours faithfully,

(R V M M Rao)

Chief General Manager

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Minutes of 41st Consultation Meeting for Evolving Transmission Schemes in Northern Region held on 10.10.2025

Subsequently, based on the inputs received by various entities & Grid India, the list was again discussed with all stakeholders in 22nd CMETS NR meeting held on 21.08.2023.

No comments were received by CTUIL from NHPC regarding the installed capacity/Deemed GNA of Tanakpur HEP at any stage. Accordingly, based on the inputs and subsequent discussions held in 22nd CMETS NR meeting, the list of deemed GNA grantees was finalised and CTUIL vide letter dated 25.09.2023 granted Deemed GNA to all eligible entities.

However, recently, NHPC vide mail dated 11.09.2025 intimated that the Installed Capacity of Tanakpur Hydro Power Station is 94.2 MW (3x31.4 MW). Accordingly, NHPC requested to revise the Deemed GNA granted to Tanakpur HEP from 94 MW to 94.2 MW.

As per 18.1(g), deemed GNA is to be granted equal to the installed capacity of Central generating station. Accordingly, it matter regarding revision of IC and grant of corresponding deemed GNA to Tanakpur HEP for 94.2 MW was deliberated. NHPC, CEA, Grid India were asked to provide their observations regarding the same.

CEA informed that as per regulation the deemed GNA equal to the installed capacity is to be granted. Therefore, the same may be considered for revision in line with regulations. Grid India also agreed for the same. No comments were received in the meeting from stakeholders.

NHPC informed that, initially Tanakpur HEP had 3 units of installed capacity of 40 MW each (total 120 MW). Subsequently, in the year 1996 the installed capacity was derated to 3x31.4 MW (total derated installed capacity 94.2 MW). NHPC also informed that at the time of deemed GNA grant, it was assumed that the installed capacity was rounded off. Therefore, they did not provide any comments at that stage. The same round off figure of 94 MW is mentioned in NRPC allocation orders. In view of the above, NHPC requested to consider this minor correction to revise the deemed GNA to 94.2 MW from earlier granted 94 MW.

After deliberations it was decided to revise the deemed GNA granted to Tanakpur HEP to 94.2 MW.

Network Expansion scheme

1. Augmentation of 765/400 kV and 400/220 kV ICTs along with Implementation of 2 nos. of 220kV line bays & 1 no. of 400kV line at 765/400/220kV Ramgarh PS

In the meeting it was stated that 765/400/220kV Ramgarh PS is currently under implementation by M/s Ramgarh II Transmission Ltd {a subsidiary of Power Grid Corporation of India Ltd.} and is expected to be commissioned by Dec'25 as part of Transmission system for evacuation of power from REZ

Minutes of 41st Consultation Meeting for Evolving Transmission Schemes in Northern Region held on 10.10.2025

in Rajasthan (20GW) under Phase-III Part C1. In this scheme, 2x1500 MVA 765/400 kV ICTs & 2x500 MVA 400/220 kV ICTs at Ramgarh PS are under implementation. At present total connectivity of 3984 MW have been granted at Ramgarh PS, out of which connectivity of about 3100MW (1200MW at 220kV level & 1900 MW at 400kV level) will be effective with Transmission system for evacuation of power from REZ in Rajasthan (20 GW) Phase III scheme. Out of 3100MW connectivity, 650MW capacity is granted on EHVAC scheme whereas 2450MW capacity is granted on HVDC scheme (Bhadla-Fatehpur). Balance 884 MW connectivity is associated with Ramgarh-II transmission scheme which is yet to be evolved.

It may be noted that the 1x1500 MVA ICT(3rd) at Ramgarh PS is already approved under Phase-II Part C2 scheme. However, the same was not taken up for implementation earlier due to non-receipt of applications. In view of above, to meet N-1 compliance and to enable immediate power evacuation, Augmentation of 765/400 kV, 1500 MVA (4th) ICT and 400/220 kV, 2x500 MVA (3rd & 4th) ICTs are required at Ramgarh PS. Further, 2 nos. of 220kV line bays (for M/s Migos Hybren Private Limited (600MW) & 1 no. of 400kV line bay (for M/s Adani Renewable Energy Holding Four Ltd (500+500MW)) at 765/400/220kV Ramgarh PS is also required in ISTS for RE connectivity.

In the meeting Grid-India enquired about the requirement of Augmentation of 765/400 kV, 1x1500 MVA (4th) ICT at Ramgarh PS with respect to connectivity quantum. CTU replied that total connectivity granted at Ramgarh PS 3984 MW. Out of this 3100 MW is granted with Ph-III Scheme. Therefore, considering total connectivity of about 4000 MW granted at Ramgarh PS, 4th ICT shall be required for power evacuation as well as to meet N-1 contingency. No comments were received in the meeting from stakeholders.

In view of above, following scheme was agreed to be implemented under ISTS:

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
1	Augmentation of 765/400 kV, 1x1500 MVA (4 th) ICT at 765/400kV Ramgarh PS	1500 MVA ICT- 1 no. 765 kV ICT Bay-1 no. 400 kV ICT Bay-1 no
2	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS	500 MVA ICT- 2 no. 400 kV ICT Bay-2 nos. 220 kV ICT Bay-2 nos.
3	Implementation of 2 nos. of 220kV line bays at 765/400kV Ramgarh PS	220 kV line bay - 2 nos.

4	Implementation of 1 no. of 400kV line bay at 765/400kV Ramgarh PS	400 kV line bay - 1 no.
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2. Augmentation of 400/220 kV, 4x500 MVA (6th to 9th) ICTs along with 5 nos. of 220kV line bays and 1 no. of 400kV line bay at 765/400/220kV Bhadla-III PS

In the meeting it was stated that 765/400/220kV Bhadla-III PS is currently under implementation by POWERGRID Bhadla III Transmission Limited {a subsidiary of Power Grid Corporation of India Ltd.} with an implementation timeframe of Dec'25 as part of Transmission system for evacuation of power from REZ in Rajasthan (20GW) under Phase-III Part B1. At present total connectivity of 6500 MW have been granted at Bhadla-III PS (4050 MW at 220kV level & 2450MW at 400kV level). Out of 6500MW connectivity granted, 2990MW capacity is granted on EHVAC scheme (1990 MW at 220kV & 1000 MW at 400 kV) for which 4 nos. 765/400kV ICTs and 5 nos. 400/220kV ICTs are under implementation whereas 3510MW connectivity (2060 at 220 kV & 1450 at 400 kV) is granted on HVDC scheme (Bhadla – Fatehpur).

In view of above to enable immediate power evacuation and to meet N-1 compliance, Augmentation of 400/220 kV, 4x500 MVA (6th to 9th) ICTs are required in matching timeframe of HVDC scheme. Further, 5 nos. of 220kV line bays, 1 no. of 400kV line bay & 2 no. 400kV sectionalizer bay at 765/400/220kV Bhadla-III PS is also required in ISTS for RE connectivity. No comments were received in the meeting from stakeholders.

In view of above, following scheme was agreed to be implemented under ISTS:

Sl. No.	Description of Transmission Element	Scope of work (Type of Substation/Conductor capacity/km/no. of bays etc.)
1	Augmentation of 400/220 kV, 4x500 MVA (6 th to 9 th) ICTs at 765/400/220kV Bhadla-III PS	500 MVA CT- 4 nos. 400 kV ICT Bay-4 nos. 220 kV ICT Bay-4 nos.
2	Implementation of 5 nos. of 220kV line bays at 765/400/220kV Bhadla-III PS	220 kV line bay - 5 nos.
3	Implementation of 1 no. of 400kV line bay at 765/400/220kV Bhadla-III PS	400 kV line bay - 1 no.
4	Implementation of 2 no. 400kV sectionalizer bay at 765/400/220kV Bhadla-III PS	400kV sectionalizer bay-2 set

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असाधारण
EXTRAORDINARY

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

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विद्युत मंत्रालय

अधिसूचना

नई दिल्ली, 11 फरवरी, 2026

का.आ. 725(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 37वीं राष्ट्रीय पारेषण समिति की बैठक की सिफारिशों पर, संबंधित बोली प्रक्रिया समन्वयक-(बीपीसी) के विवरण सहित टीबीसीबी मोड के अंतर्गत निम्नलिखित पारेषण स्कीमों को एतद्वारा अधिसूचित करती है: -

1. भड़ला-III, रामगढ़ पीएस और कानपुर में संवर्धन। (पीजी)

संभावित कार्यान्वयन समय सीमा : दिनांक 20.01.2029

बीपीसी : आरईसी पावर डेवलपमेंट एंड कंसल्टेंसी लिमिटेड

कार्यक्षेत्र:

क्र.सं.	पारेषण स्कीम का कार्यक्षेत्र	घटक विवरण
1.	765/400/220 केवी भड़ला-III पीएस में 400/220 केवी, 5x500 एमवीए (छठे से 10वें) आईसीटी का	500 एमवीए, 400/220 केवी आईसीटी - 5 (220 केवी सेक्शन-2 (छठे से 9वें) में 4 आईसीटी

	संवर्धन	और 220 केवी सेक्शन-1 (10वां) में 1 आईसीटी) • 400 केवी आईसीटी बे - 5 • 220 केवी आईसीटी बे - 4 • 220 केवी आईसीटी (जीआईएस) बे - 1 (10 वें आईसीटी के लिए)। • आईसीटी (10वें) के 220 केवी साइड से 220 केवी जीआईएस बे (सेक्शन-1) के इंटरकनेक्शन के लिए 220 केवी जीआईएस बस डक्ट / केबल
2.	765/400/220 केवी भड़ला-III पीएस में 5, 220 केवी लाइन बे का कार्यान्वयन।	• 220 केवी लाइन बे -5
3.	765/400/220 केवी भड़ला-III- पीएस में एक 400 केवी लाइन बे का कार्यान्वयन।	• 400 केवी लाइन बे -5
4.	765 / 400/220 केवी भड़ला-III पीएस पर 2 सेट 400 केवी सेक्शनलाइजर बे का कार्यान्वयन	• 400 केवी सेक्शनलाइजर बे -2 सेट
5.	765/400 केवी रामगढ़ पीएस में 765/400 केवी, 2x1500 एमवीए तीसरे) और चौथे) आईसीटी का संवर्धन	• 1500 एमवीए, 765/400 केवी आईसीटी -2 • 765 केवी आईसीटी बे -2 • 400 केवी आईसीटी बे -2
6.	765/400 केवी रामगढ़ पीएस में 400/220 केवी, 2x500 एमवीए तीसरे) और चौथे) आईसीटी का संवर्धन	• 500 एमवीए, 400/220 केवी आईसीटी -2 • 400 केवी आईसीटी बे -2 • 220 केवी आईसीटी बे -2
7.	765/400 केवी रामगढ़ पीएस में दो 220 केवी लाइन बे का कार्यान्वयन	• 220 केवी लाइन बे -2
8.	765/400 केवी रामगढ़ पीएस में एक 400 केवी लाइन बे का कार्यान्वयन	• 400 केवी लाइन बे -1
9.	765/400 केवी कानपुर सबस्टेशन में (पीजी) 765/400 केवी, 1x1500 एमवीए (तीसरा) आईसीटी का संवर्धन	• 1500 एमवीए (3 x 500 एमवीए), 765/400 केवी आईसीटी - 1 • 765 केवी आईसीटी बे (जीआईएस) जिसमें व्यास का पूरा होना शामिल है। • मौजूदा स्पेयर बे में 400 केवी आईसीटी बे (जीआईएस) • समाप्ति के साथ सभी संबंधित जीआईएस डक्ट।

अनंतपुरम-III पीएस आरईजेड चरण-1 (3 गीगावाट) के एकीकरण के लिए पारेषण प्रणाली।

संभावित कार्यान्वयन समय सीमा :30 माह।

बीपीसी :पावर फाइनेंस कॉर्पोरेशन लिमिटेड (पीएफसी)

कार्यक्षेत्र:

क्रसं.	पारेषण स्कीम का कार्यक्षेत्र	क्षमता /किमी
1	अनंतपुरम-III पीएस में 2 x 330 एमवीएआर (765 केवी) बस रिएक्टर सहित 400 केवी स्तर पर प्रत्येक 4500 एमवीए के दो (2) खंडों के प्रावधान के साथ-साथ अनंतपुर जिले में उरवाकोंडा/बेलुगुप्पा/कल्याणदुर्ग क्षेत्रों के पास 3x1500 एमवीए, 765/400 केवी और 7x500 एमवीए, 400/220 केवी अनंतपुरम-III	• 765/400 केवी, 1500 एमवीए, आईसीटी - 3 (1 अतिरिक्त यूनिट सहित 10x500 एमवीए) • 765 केवी आईसीटी बे - 3 • 400 केवी आईसीटी बे- 3 • 765 केवी लाइन बे - 2 (अनंतपुरम-III पीएस पर अनंतपुरम-III से कृष्णागिरि 765 केवी डी/सी लाइन की समाप्ति के लिए) • 765 केवी, 330 एमवीएआर बस रिएक्टर- 2

	पूलिंग स्टेशन की स्थापना। भावी स्थान का प्रावधान : • 765/400 केवी, 1500 एमवीए, आईसीटी - 3 • 765 केवी आईसीटी बे - 3 • 400 केवी आईसीटी बे - 3 • 400/220 केवी, 500 एमवीए, आईसीटी - 7 • 400 केवी आईसीटी बे - 7 • 220 केवी आईसीटी बे - 7 • 765 केवी लाइन बे - 12 • (एसएलआर के प्रावधान के साथ) • 400 केवी लाइन बे - 11 (एसएलआर के प्रावधान के साथ) • 220 केवी लाइन बे - 15 • 220 केवी बस सेक्शनलाइज़र: 2 सेट • 220 केवी बस कपलर (बीसी) बे - 2 • 220 केवी ट्रांसफर बस कपलर (टीबीसी) बे - 2 • 400 केवी बस सेक्शनलाइज़र: 1 सेट	(बस रिएक्टर और लाइन रिएक्टर के लिए एक स्विचेबल अतिरिक्त यूनिट सहित 7x110 एमवीएआर) • 765 केवी बस रिएक्टर बे - 2 • 400/220केवी, 500 एमवीए, आईसीटी - 7 • 400 केवी आईसीटी बे - 7 • 220 केवी आईसीटी बे - 7 • 220 केवी लाइन बे - 10 • 220 केवी बस सेक्शनलाइज़र: 1 सेट • 220 केवी बस कपलर (बीसी) बे - 2 • 220 केवी ट्रांसफर बस कपलर (टीबीसी) बे - 2
2	अनन्तपुरम-III पीएस में ± 300 एमवीएआर स्टेडकॉम	• 400 केवी बे -1 • ± 300 एमवीएआर स्टेडकॉम -1 सेट
3	अनन्तपुरम-III छोर के दोनों सर्किटों पर 240 एमवीएआर एसएलआर के साथ (कनवर्टिबल) -अनन्तपुरम III से कृष्णागिरि 765 केवी डी / सी लाइन	~ 140 किमी • 765 केवी लाइन बे - 2 (कृष्णागिरि में) • अनन्तपुरम-III पीएस में 765 केवी, 240 एमवीएआर एसएलआर - 2 (एक स्विचेबल अतिरिक्त यूनिट सहित 7x80 एमवीएआर) • अनन्तपुरम-III पीएस में 765 केवी एसएलआर के लिए स्विचिंग उपकरण - 2

गुजरात में जाम खंभालिया आरई परियोजना से विद्युत के एकीकरण के लिए पारेषण प्रणाली - चरण-II।

(5500 मेगावाट) और जामनगर चरण-I (1000 मेगावाट)।

संभावित कार्यान्वयन समयसीमा :31.03.2030

बीपीसी :पावर फाइनेंस कॉर्पोरेशन लिमिटेड (पीएफसी)

कार्यक्षेत्र:

क्रसं.	पारेषण स्कीम का कार्यक्षेत्र	क्षमता किमी /
1.	2x330 एमवीएआर, 765 केवी बस रिएक्टर एवं 2x125 एमवीएआर, 420 केवी बस रिएक्टर के साथ कल्याणपुर के निकट (जीआईएस)4x1500 एमवीए, 765/400 केवी तथा 10x500 एमवीए, 400/220 केवी सबस्टेशन की स्थापना। भावी प्रावधान :(स्थान के लिए) 1. बे के साथ-साथ 765/400 केवी, 1500	• 765 / 400 केवी, 1500 एमवीए आईसीटी - 4 (एक अतिरिक्त आईसीटी यूनिट सहित 13 x 500 एमवीए सिंगल फेज यूनिट) (सेक्शन-I पर 3 और सेक्शन-II पर 1) • 400/220 केवी, 500 एमवीए आईसीटी - 10 (सेक्शन-I पर 5 और सेक्शन-II पर 5)

	एमवीए आईसीटी - 2 (सेक्शन-II पर) 2. स्विचेबल लाइन रिएक्टर के साथ-साथ 765 केवी लाइन बे - 8 (सेक्शन-1 पर 4 और सेक्शन-II पर 4) 3. बे के साथ-साथ 765 केवी, 330 एमवीएआर बस रिएक्टर : 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) 4. स्विचेबल लाइन रिएक्टर के साथ-साथ 400 केवी लाइन बे - 12 । (सेक्शन-1 पर 4 और सेक्शन-II पर 8) 5. बे के साथ-साथ 420 केवी, 125 एमवीएआर बस रिएक्टर: 2 (सेक्शन-I पर 1 सेक्शन-II पर 1) ➤ 220 केवी लाइन बे: सेक्शन-I पर 3 और सेक्शन-II पर 3 ➤ 400 केवी एचवीएसी स्विचयार्ड तथा सभी संबंधित उपकरणों (फिल्टर सहित)/बस एक्सटेंशन आदि सहित संबद्ध इंटरकनेक्शन (प्रत्येक 400 केवी बस सेक्शन पर 2x1500 मेगावाट पोल) के साथ-साथ 6000 मेगावाट, $\pm$ 800 केवी कल्याणपुर (जीआईएस) (एचवीडीसी) [एलसीसी] टर्मिनल स्टेशन (4x1500 मेगावाट) की स्थापना। ➤ 400 केवी बे के साथ $\pm$400 एमवीएआर स्टेटकॉम- 2 (सेक्शन-1 पर 1 और सेक्शन-2 पर 1)	• 765 केवी आईसीटी बे - 4 • 400 केवी आईसीटी बे - 14 • 220 केवी आईसीटी बे - 10 • 765 केवी लाइन बे - 4 (सेक्शन-1 पर 2 और सेक्शन-II पर 2) • 765 केवी सेक्शनलाइज़र बे- 1 सेट • 400 केवी सेक्शनलाइज़ेशन बे- 1 सेट • 220 केवी सेक्शनलाइज़ेशन बे- 1 सेट • 1x330 एमवीएआर, 765 केवी बस रिएक्टर- 2 (बस / लाइन रिएक्टरों के लिए एक अतिरिक्त यूनिट सहित 7x110 एमवीएआर सिंगल फेज रिएक्टर) (सेक्शन-I पर 1 और सेक्शन-II पर 1) • 765 केवी बस रिएक्टर बे- 2 • 125 एमवीएआर, 420 केवी रिएक्टर- 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) • 400 केवी रिएक्टर बे- 2 • 220 केवी बीसी बे- 2 • 400 केवी लाइन बे - 1 (सेक्शन-I में आरई परियोजना के इंटर-कनेक्शन के लिए) • 220 केवी लाइन बे - 12 (आरई परियोजनाओं के इंटर-कनेक्शन के लिए, सेक्शन-1 पर 6 और सेक्शन-II पर 6)
2.	कल्याणपुर (जीआईएस) जामनगर - (जीआईएस) 765 केवी डीसी लाइन/	95 किमी
3.	जामनगर (जीआईएस)एसएस/ पर दो 765 केवी लाइन बे	765 केवी लाइन बे -2 (जीआईएस)
4.	कल्याणपुर राजकोट के) सौराष्ट्र - (जीआईएस) (जीईटीसीओ) (निकट 765 केवी डीसी लाइन/	225 किमी
5.	कल्याणपुर (जीआईएस) – सौराष्ट्र (राजकोट के पास) (जीईटीसीओ) 765 केवी डी/सी लाइन (एनजीआर बाईपास व्यवस्था के साथ) के कल्याणपुर (जीआईएस) छोर के प्रत्येक सर्किट पर 330 एमवीएआर स्विचेबल लाइन रिएक्टर	• 330 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 • 765 केवी लाइन रिएक्टर के लिए स्विचिंग उपकरण- 2
6.	सौराष्ट्र (राजकोट के निकट) (जीईटीसीओ) एस/एस पर दो 765 केवी लाइन बे	• 765 केवी लाइन बे -2
7.	कल्याणपुर (जीआईएस) में 1200 एमवीए (न्यूनतम) के पीसीसी पर सिंक्रोस कंडेनसर की स्थापना (+300/-200एमवीएआर) (न्यूनतम) और शॉर्ट सर्किट का योगदान – 2 जड़त्व का मान (मेगावाट-सेकेंड) आरएफपी दस्तावेज में परिभाषित किया जाएगा।	• 400 केवी संबद्ध बे के साथ-साथ सिंक्रोस कंडेनसर - 2 (प्रत्येक सेक्शन-1 और 2 पर एक)

8.	जामनगर (जीआईएस) एस/एस में 3x500 एमवीए, 400/220 केवी आईसीटी की स्थापना के साथ 220 केवी स्विचयार्ड का निर्माण	• 220 केवी बस सेक्शन-I का निर्माण • 220 केवी बीसी बे - 1 • 400/220 केवी, 500 एमवीए आईसीटी - 3 (400 केवी और 220 केवी सेक्शन-I पर) • 400 केवी आईसीटी बे- 1 (2 आईसीटी को 2 जीआईएस बे में टर्मिनेट किया जाना है, जिसे जामनगर एस/एस में व्यास कंप्लीशन के हिस्से के तौर पर "जामनगर क्षेत्र में फेज़-I के तहत लगभग 3.6 गीगावाट लोड की आपूर्ति के लिए गुजरात में नेटवर्क विस्तार स्कीम" स्कीम के तहत लागू किया जा रहा है) • 220 केवी आईसीटी बे - 3
9.	आरई इंटरकनेक्शन के लिए चार 220 केवी लाइन बे	220 केवी लाइन बे - 4

टिप्पणी:

- जामनगर एस क्रम सं, एस का टीएसपी/3, 8 और 9 पर निशुल्क आधार पर उपर्युक्त कार्यक्षेत्र के लिए : स्थान उपलब्ध कराएगा।
- जीईटीसीओ क्रम सं, 6 में उपर्युक्त कार्यक्षेत्र के लिए निशुल्क आधार पर स्थान उपलब्ध कराएगा।
- डेढ़ ब्रेकर स्कीम में व्यास को पूरा करने (जीआईएस) के लिए आवश्यक बे का निष्पादन भी टीएसपी (ओं) द्वारा किया जाएगा।
- उपर्युक्त सिंकोनों -सं.क्र)7 पर को इसके टैरिफ तंत्र के लिए स्टेटकॉम और एसवीसी के समान ("पारेषण परिसंपत्ति" माना जाएगा।

4. गुजरात में लकड़िया आरईजेड में आरई परियोजनाओं से विद्युत के एकीकरण के लिए पारेषण प्रणाली) II-चरण -7500 मेगावाट(

संभावित कार्यान्वयन समयसीमा :36 महीने

बीपीसी :आरईसी पावर डेवलपमेंट एंड कंसल्टेंसी लिमिटेड

कार्यक्षेत्र:

क्रसं.	पारेषण स्कीम का कार्यक्षेत्र	क्षमता किमी /
1.	2x330 एमवीएआर 765 केवी बस रिएक्टर और 2x125 एमवीएआर 400 केवी बस रिएक्टर के साथ 765/400 केवी, 6x1500 एमवीए और 10x500 एमवीए, 400/220 केवी लकड़िया-II (चित्रोड के निकट) की स्थापना। [765 केवी, 400 केवी और 220 केवी स्तरों को सेक्शनलाइज़र व्यवस्था के साथ दो खंडों में स्थापित किया जाएगा। 220 केवी सेक्शनलाइज़र को सामान्य रूप से खुला रखा जाएगा और आकस्मिक स्थिति में बंद किया जा सकता है। 400 केवी और 765 केवी सेक्शनलाइज़र को सामान्य रूप से बंद रखा जाएगा। ग्रिड ऑपरेटर की आवश्यकता के अनुसार प्रस्तावित एचवीडीसी कार्यान्वयन के बाद बस संचालन की समीक्षा की	• 765/400 केवी, 1500 एमवीए आईसीटी - 6 (एक अतिरिक्त आईसीटी यूनिट सहित 19 x 500 एमवीए सिंगल फेज यूनिट) • 400/220 केवी आईसीटी - 10 (सेक्शन-I पर 5 और सेक्शन-II पर 5) • 765 केवी आईसीटी बे - 6 • 400 केवी आईसीटी बे - 16 • 220 केवी आईसीटी बे - 10 • 1x330 एमवीएआर, 765 केवी बस रिएक्टर- 2 (बस/लाइन रिएक्टर के लिए एक अतिरिक्त इकाई सहित 7x110 एमवीएआर सिंगल फेज रिएक्टर) (सेक्शन-I पर 1 और सेक्शन-II पर 1) • 765 केवी बस रिएक्टर बे- 2 • 765 केवी लाइन बे- 8 (सेक्शन-I पर 4 (हलवाद

	जा सकती है। (3x1500 एमवीए 765/400 केवी आईसीटी, 5x500 एमवीए 400/220 केवी आईसीटी, 1x330 एमवीए 765 केवी बीआर और 1x 125 एमवीएआर 420 केवी बीआर सेक्शन-1 पर होंगे और 3 x1500 एमवीए 765/400 केवी आईसीटी, 5x500 एमवीए 400/220 केवी आईसीटी, 1x330 एमवीए 765 केवी बीआर और 1x125 एमवीएआर 420 केवी बीआर सेक्शन-2 पर होंगे)] भावी प्रावधान (स्थान के लिए): ➤ 765 केवी लाइन बे के साथ स्विचेबल लाइन रिएक्टर - 6 (सेक्शन-I पर 2 सेक्शन-II पर 4) ➤ 765 केवी बस रिएक्टर के साथ बे: 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) ➤ स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 7 (सेक्शन-I पर 3 और सेक्शन-II पर 4) + एचवीडीसी इंटरकनेक्शन के लिए चार 400 केवी बे (प्रत्येक सेक्शन पर 2) ➤ बे के साथ-साथ 420 केवी, 125 एमवीएआर बस रिएक्टर: 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) ➤ 220 केवी लाईन बे-2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) ➤ 400 केवी एचवीएसी स्विचयार्ड और सभी संबंधित उपकरणों (फिल्टर सहित)/बस एक्सटेंशन आदि सहित संबद्ध इंटरकनेक्शन (प्रत्येक 400 केवी सेक्शन पर 2x1500 मेगावाट पोल) के साथ-साथ 6000 मेगावाट, ± 800 केवी लकड़िया-II (एचवीडीसी) [एलसीसी] टर्मिनल स्टेशन (4x1500 मेगावाट) की स्थापना। ➤ 400 केवी बे के साथ-साथ सिंक्रोनस कंडेनसर (+300/-200 एमवीएआर)- 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1)	डी/सी के लिए 2 और अहमदाबाद डी/सी के लिए 2) और सेक्शन-II पर 4 (कांडला डी/सी के लिए 2 और वातमन के लिए 2) • 765 केवी सेक्शनलाइज़र बे- 1 सेट • 400 केवी सेक्शनलाइज़र बे- 1 सेट • 220 केवी सेक्शनलाइज़र बे- 1 सेट • 220 केवी बीसी - 2 • 220 केवी टीबीसी - 2 • 125 एमवीएआर, 420 केवी रिएक्टर - 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) • 400 केवी रिएक्टर बे - 2 • 400 केवी लाइन बे - 3 (आरई परियोजनाओं के इंटरकनेक्शन के लिए सेक्शन-I पर 2 और सेक्शन-II पर 1) • 220 केवी लाइन बे- 15 (आरई परियोजनाओं के इंटरकनेक्शन के लिए सेक्शन-I पर 7 और सेक्शन-II पर 8)
2.	लकड़िया-II पर सिंक्रोनस कंडेनसर की स्थापना (+300/-200 एमवीएआर) (न्यूनतम) तथा 1200 एमवीए (न्यूनतम) के पीसीसी पर शॉर्ट सर्किट कंट्रीब्यूशन। जड़त्व का मान (मेगावाट-एस) आरएफपी दस्तावेज़ में परिभाषित किया जाएगा।	संबद्ध 400 केवी बे के साथ-साथ सिंक्रोनस कंडेनसर -2 (सेक्शन-I और सेक्शन-II प्रत्येक पर एक)
3.	लकड़िया-II पर हलवाद - कांडला 765 केवी डी/सी लाइन का लिलो	लिलो मार्ग की लंबाई ~22 किमी. (88 सीकेएम)
4.	लकड़िया-II- अहमदाबाद 765 केवी डी/सी लाइन	190 किमी (380 सीकेएम)
5.	लकड़िया-II - अहमदाबाद 765 केवी डी/सी	765 केवी लाइन बे - 2 (एआईएस)

	लाइन के लिए अहमदाबाद एस/एस में दो 765 केवी लाइन बे	
6	लकड़िया-II - अहमदाबाद 765 केवी डी/सी लाइन के अहमदाबाद छोर के प्रत्येक सर्किट पर 330 एमवीएआर स्विचेबल लाइन रिएक्टर	• 330 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 • 765 केवी स्विचेबल लाइन रिएक्टर बे - 2 • अहमदाबाद एस/एस में 110 एमवीएआर स्पेयर सिंगल फेज रिएक्टर पहले से ही उपलब्ध हैं और इसका उपयोग एसडब्ल्यू एलआर के लिए किया जाएगा।
7	लकड़िया-II - वटामण 765 केवी डी/सी लाइन (220 किमी)	220 किमी (440 सीकेएम)
8	लकड़िया- 2,765 केवी डी/सी लाइन के लिए वटामण एस/एस में 765 केवी लाइन बे	765 केवी लाइन बे -2 (एआईएस)
9	लकड़िया-II - वटामण 765 केवी डी/सी लाइन के दोनों छोरों के प्रत्येक सर्किट पर 765 केवी, 240 एमवीएआर स्विचेबल लाइन रिएक्टर	• 240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर - 4 (लकड़िया-II छोर के लिए 2 और वटामण छोर के लिए 2) • 765 केवी स्विचेबल लाइन रिएक्टर बे - 4 (लकड़िया-II के लिए 2 और वटामण के लिए 2)। • उपर्युक्त 240 एमवीएआर एसडब्ल्यू एलआर के लिए लकड़िया-II पर 80 एमवीएआर अतिरिक्त सिंगल-फेज रिएक्टर। • वटामण एस/एस पर 80 एमवीएआर स्पेयर सिंगल-फेज रिएक्टर पहले से ही उपलब्ध हैं और उसी का उपयोग एसडब्ल्यू एलआर के लिए किया जाएगा।

नोट:

- अहमदाबाद एस/एस और वटामण एस/एस के टीएसपी को अपने संबंधित सबस्टेशनों में उपर्युक्त कार्यक्षेत्र के लिए स्थान (निःशुल्क) उपलब्ध कराएगा।
- उपर्युक्त सिंकोनों -सं.क्र) 2 पर को इसके टैरिफ तंत्र के लिए स्टेटकॉम और एसवीसी के समान ('पारेषण परिसंपत्ति' माना जाएगा।

5. लकड़िया (चरण-2: 7.5 गीगावाट), जाम खंभालिया (चरण-2: 5.5 गीगावाट) और जामनगर (चरण-1: 1 गीगावाट)

से विद्युत निकासी के लिए सामान्य पारेषण प्रणाली- भाग- क

संभावित कार्यान्वयन समयसीमा :36 महीने

बीपीसी :पावर फाइनेंस कॉर्पोरेशन लिमिटेड (पीएफसी)

कार्यक्षेत्र:

क्र.सं.	पारेषण स्कीम का कार्यक्षेत्र	क्षमता किमी /
1.	दक्षिण ओलपैड एस में/एस (जीआईएस) 1x1500 एमवीए, 765/400 केवी (तीसरा) आईसीटी द्वारा ट्रांसफॉर्मेशन क्षमता में संवर्धन	• 765/400 केवी, 1500 एमवीए आईसीटी - 1
2.	लकड़िया (जीआईएस) वडोदरा -765 केवी डी सी लाइन/के निर्माण हेतु वडोदरा हलवाद - (जीआईएस)765 केवी डीसी / हलवाद - लाइन को लकड़िया765 केवी	400 केवी आईसीटी बे - 1 (जीआईएस) (इसे खावदा फेज-4 भाग-ग स्कीम के तहत व्यास कम्पलीशन के एक भाग के रूप में निर्मित किया जा रहा है)

	डी/सी लाइन (हलवाद एस/एस के निकट) में समाप्त किया जाएगा।	
3.	लकड़िया - वडोदरा 765 केवी डी /सी लाइन (ऊपर क्रमांक 2 पर विवरण के अनुसार बनाई गई) की समाप्ति के लिए वडोदरा (जीआईएस) छोर पर 765 केवी लाइन बे	765 केवी लाइन बे - 2 (जीआईएस) (इसका निर्माण "फेज़- IV (7 गीगावाट): भाग ख के तहत गुजरात के खावदा क्षेत्र में संभावित नवीकरणीय ऊर्जा क्षेत्र से विद्युत निकासी के लिए पारेषण प्रणाली" के तहत व्यास कम्पलीशन के हिस्से के रूप में किया जा रहा है। इन बेज़ पर लाइन को समाप्त करने के लिए लाइन साइड उपकरण को इस पारेषण स्कीम के तहत लागू किया जाएगा)
4.	लकड़िया- वडोदरा (जीआईएस) 765 केवी डी/सी लाइन के वडोदरा (जीआईएस) छोर के प्रत्येक सर्किट पर 765 केवी, 240 एमवीएआर स्विचेबल लाइन रिएक्टर। (क्र.सं.- 2 पर उपर्युक्त विवरण के अनुसार निर्मित)	240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2। 765 केवी स्विचेबल लाइन रिएक्टर बे- 2 (इसका निर्माण "फेज़- IV (7 गीगावाट): भाग ख के तहत गुजरात के खावदा क्षेत्र में संभावित नवीकरणीय ऊर्जा क्षेत्र से विद्युत निकासी के लिए पारेषण प्रणाली" के तहत व्यास कम्पलीशन के हिस्से के रूप में किया जा रहा है। - वडोदरा एस/एस में 80 एमवीएआर, 1 फेज अतिरिक्त रिएक्टर पहले से ही उपलब्ध है और उसी का इस्तेमाल स्विचेबल एलआर के लिए किया जाएगा।
5.	लकड़िया- वडोदरा (जीआईएस) 765 केवी डी/सी लाइन के हलवाद स्विचिंग स्टेशन के बाईपास बिंदु पर 765 केवी, 330 एमवीएआर स्विचेबल मिड-पॉइंट रिएक्टर (टिप्पणी घ देखें)	330 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 2 765 केवी स्विचेबल लाइन रिएक्टर बे- 2 - हलवाद एस/एस के निकट बाईपास बिंदु पर 110 एमवीएआर अतिरिक्त सिंगल फेज रिएक्टर।

टिप्पणी :

- (क). डेढ़ ब्रेकर स्कीम में व्यास जीआईएस)) को पूरा करने के लिए ज़रूरी बे का काम भी टीएसपी (ओं) द्वारा किया जाएगा।
- (ख). दक्षिण ओलपाड एसएस क/ा टीएसपी ,क्रसं. 1 के अनुसार ऊपर्युक्त कार्यक्षेत्र के लिए स्थान (निशुल्क) उपलब्ध कराएगा।
- (ग). वडोदरा का टीएसपी (जीआईएस), ऊपर्युक्त कार्यक्षेत्र के लिए क्र सं .3 और 4 के अनुसार स्थान (निशुल्क) उपलब्ध कराएगा।

- (घ). (घ). चूंकि "चरण-3 भाग क के तहत खवड़ा आरई पार्क से अतिरिक्त 7 गीगावाट आरई की निकासी के लिए पारेषण स्कीम" परियोजना (हलवाद ट्रांसमिशन लिमिटेड- आईएसएल द्वारा कार्यान्वयनाधीन) के तहत हलवाद स्विचिंग स्टेशन पर स्थान आवंटित करते समय लकाडिया - वडोदरा (जीआईएस) 765 केवी डी/सी लाइन पर हलवाद स्विचिंग स्टेशन के बाईपास पॉइंट पर 765 केवी, 330 एमवीएआर स्विचेबल मिड-पॉइंट रिएक्टर के प्रावधान की परिकल्पना नहीं की गई थी, इसलिए रिएक्टर को हलवाद स्विचिंग स्टेशन पर अन्य पारेषण घटकों के लिए आरक्षित स्थान का उपयोग करके स्थापित किया जाएगा, जिसे आरएफपी दस्तावेज़ में निर्दिष्ट किया जाएगा।

6. लकाडिया -चरण)2: 7.5 गीगावाट(, जाम खंभालिया -चरण)2: 5.5 गीगावाट-चरण) और जामनगर (1: 1 गीगावाट(से विद्युत निकासी के लिए सामान्य पारेषण प्रणाली ख- भाग –

संभावित कार्यान्वयन समयसीमा :36 महीने

बीपीसी :आरईसी पावर डेवलपमेंट एंड कंसल्टेंसी लिमिटेड

कार्यक्षेत्र:

क्रसं.	पारेषण स्कीम का कार्यक्षेत्र	क्षमता किमी /
1.	2x330 एमवीएआर 765 केवी बस रिएक्टर एवं 2x125 एमवीएआर 400 केवी बस रिएक्टर के साथ 765/400 केवी, 3x1500 एमवीए और 400/220 केवी, 3x500 एमवीए नासिक एस एस/ की स्थापना (नासिक के दक्षिण की ओर) भावी प्रावधान (स्थान के लिए) ➤ बे के साथ 765/400 केवी, 1500 एमवीए आईसीटी - 3 (सेक्शन-II पर)। ➤ स्विचेबल लाइन रिएक्टरों के साथ 765 केवी लाइन बे - 10 (सेक्शन-I पर 4 और सेक्शन-II पर 6)। ➤ बे के साथ 765 केवी, 330एमवीए बस रिएक्टर: 2 (सेक्शन-II पर) ➤ 765 केवी सेक्शनलाइजर बे: 1 सेट ➤ 400 केवी सेक्शनलाइजर बे: 1 सेट ➤ बे के साथ 400/220 केवी, 500 एमवीए आईसीटी- 7 (सेक्शन-I पर 2 और सेक्शन-II पर 5)। ➤ स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 10 (सेक्शन-I पर 4 और सेक्शन-II पर 6)।	• 765 / 400 केवी, 1500 एमवीए आईसीटी - 3 (एक अतिरिक्त आईसीटी इकाई सहित 10x500 एमवीए एकल चरण इकाइयां • • 400/220केवी आईसीटी - 3 • 765 केवी आईसीटी बे - 3 • 400 केवी आईसीटी बे - 6 • 220 केवी आईसीटी बे - 3 • 765 केवी लाइन बे - 2 • 1x330 एमवीएआर, 765 केवी बस रिएक्टर - 2 (बस / लाइन रिएक्टर के लिए एक अतिरिक्त इकाई सहित 7x110 एमवीएआर सिंगल फेज रिएक्टर) • 765 केवी बस रिएक्टर बे - 2 • 220 केवी बीसी - 1 • 220 केवी टीबीसी - 1 • 125 एमवीएआर, 420 केवी रिएक्टर - 2 • 400 केवी रिएक्टर बे - 2 • 400 केवी लाइन बे - 2

	➤ बे के साथ 420 केवी, 125 एमवीएआर बस रिएक्टर- 2 (सेक्शन-II पर)। ➤ 220 केवी सेक्शनलाइजर बे- 1 सेट ➤ 220 केवी बीसी और टीबीसी - प्रत्येक 1 ➤ 220 केवी लाइन बे: सेक्शन-I पर 2 और सेक्शन-II पर 8	• 220 केवी लाइन बे - 6 (एमएसईटीसीएल 220 केवी लाइनों के लिए: अडवाड़ी 220 केवी डी/सी, नासिक जीसीआर 220 केवी डी/सी और नासिक ओसीआर 220 केवी डी/सी)
2.	दक्षिण ओलपाड (जीआईएस) - नासिक 765 केवी डी/सी लाइन (240 किमी)।	• 240 किमी ;(480 सीकेएम)
3.	दक्षिण ओलपाड - नासिक 765 केवी डी/सी लाइन के लिए दक्षिण ओलपाड (जीआईएस) एस/एस (सेक्शन-II) में दो 765 केवी लाइन बे।	• 765 केवी सेक्शन-II के निर्माण के लिए 765 केवी सेक्शनलाइजर के 1 सेट के साथ 765 केवी लाइन बे- 2 (जीआईएस) (सेक्शन-II)
4.	दक्षिण ओलपाड - नासिक 765 केवी डी/सी लाइन के दोनों छोरों के प्रत्येक सर्किट पर 765 केवी, 240 एमवीएआर स्विचेबल लाइन रिएक्टर	• 240 एमवीएआर, 765 केवी स्विचेबल लाइन रिएक्टर- 4 (दक्षिण ओलपाड छोर के लिए 2 और नासिक छोर के लिए 2) • 765 केवी स्विचेबल लाइन रिएक्टर बे- 4 (दक्षिण ओलपाड छोर के लिए 2 और नासिक छोर के लिए 2) • 240 एमवीआर स्विचेबल एलआर के लिए नासिक में 80 एमवीआर अतिरिक्त सिंगल-फेज रिएक्टर • 80 एमवीएआर स्पेयर सिंगल-फेज रिएक्टर साउथ ओलपाड एस/एस में पहले से ही उपलब्ध है और इसका उपयोग स्विचेबल एलआर के लिए किया जाएगा ।
5.	नासिक-पिंपलगांव (एमएसईटीसीएल) 400 केवी डी/सी लाइन (क्वाड एसीएसआर/एएएसी/एएल59 मूस समतुल्य) (लाइन को सिनर टीपीपी / रेमंड अर्थात् नासिक के पूर्वी हिस्से के पास से रूट किया जाएगा)।...	80 किमी (160 किमी)
6.	नासिक-पिंपलगांव (एमएसईटीसीएल) 400 केवी लाइन (क्वाड एसीएसआर / एएएसी / एएल59 मूस समकक्ष) के लिए पिंपलगांव एस / एस में 400 केवी लाइन बे की संख्या 2	400 केवी लाइन बे - 2

टिप्पणी:

क) डेढ़ ब्रेकर स्कीम में व्यास (जीआईएस) को पूरा करने के लिए आवश्यक बे (जीआईएस) का भी टीएसपी द्वारा निष्पादन किया जाएगा।

ख) दक्षिण ओलपाड (जीआईएस) का टीएसपी, उपर्युक्त कार्यक्षेत्र के लिए स्थान (निःशुल्क) उपलब्ध कराएगा।

ग) एमएसईटीसीएल, पिंपलगांव एस/एस में उपर्युक्त कार्यक्षेत्र के लिए स्थान (निःशुल्क) उपलब्ध कराएगा।

घ) एमएसईटीसीएल, नासिक एस/एस से 220 केवी के लिए डाउनस्ट्रीम प्रणाली को नियत समय-सीमा में लागू करेगा।

7. लकाडिया (चरण-2: 7.5 गीगावाट), जाम खंभालिया (चरण-2: 5.5 गीगावाट) और जामनगर (चरण-1: 1 गीगावाट)

से विद्युत निकासी के लिए सामान्य पारेषण प्रणाली- भाग- ग

संभावित कार्यान्वयन समयसीमा :36 महीने

बीपीसी :पावर फाइनेंस कॉर्पोरेशन लिमिटेड (पीएफसी)

कार्यक्षेत्र:

क्र.सं	पारेषण स्कीम का कार्यक्षेत्र	क्षमता किमी /
1.	2 x 330 एमवीएआर 765 केवी बस रिएक्टर और 2 x 125 एमवीएआर 400 केवी बस रिएक्टर के साथ 765/400 केवी, 2 x 1500 एमवीए और 400/220 केवी, 3x 500 एमवीए आलेफाटा एस/एस की स्थापना। [765 केवी और 400 केवी बस सेक्शनलाइज़र को सामान्य रूप से बंद रखा जाना चाहिए। ग्रिड स्थितियों के आधार पर खोला जा सकता है] भावी प्रावधान (स्थान के लिए): ➤ बे के साथ 765/400 केवी, 1500 एमवीए आईसीटी - 4 (सेक्शन-I पर 2 और सेक्शन-II पर 2) ➤ स्विचेबल लाइन रिएक्टर के साथ 765 केवी लाइन बे - 6 (सेक्शन-I पर 2 और सेक्शन-II पर 4) ➤ बे के साथ 765 केवी, 330 एमवीएआर बस रिएक्टर: 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) ➤ बे के साथ 400/220 केवी, 500 एमवीएआर आईसीटी - 7 (सेक्शन-I पर 2 1 और सेक्शन-II पर 5) ➤ स्विचेबल लाइन रिएक्टर के साथ 400 केवी लाइन बे - 10 (सेक्शन- I पर 4 और सेक्शन- II पर 6) + 400 केवी एचवीडीसी इंटरकनेक्शन के लिए 4 बे	• 765 / 400 केवी, 1500 एमवीए आईसीटी - 2 (7x500 एमवीए एकल चरण इकाइयां जिनमें एक अतिरिक्त आईसीटी इकाई शामिल है) (सेक्शन-I पर 1 और सेक्शन-II पर 1) • 400 / 220 केवी आईसीटी - 3 (सेक्शन-1 पर)। • 765 केवी आईसीटी बे - 2 • 400 केवी आईसीटी बे - 5 • 220 केवी आईसीटी बे - 3 • 765 केवी लाइन बे - 6 (4 सेक्शन-1 पर: नासिक डी / सी, पुणे (शिक्रापुर) और पडघे एस / सी और सेक्शन-2 पर2: पुणे (शिक्रापुर) और औरंगाबाद) • 1x330 एमवीएआर, 765 केवी बस रिएक्टर- 2 (7x110 एमवीएआर सिंगल फेज रिएक्टर सहित बस / लाइन रिएक्टर के लिए एक अतिरिक्त इकाई) (सेक्शन-I पर 1 पर और सेक्शन-II पर 1) • 765 केवी बस रिएक्टर बे - 2 • 220 केवी बीसी - 1 • 220 केवी टीबीसी - 1 • 125 एमवीएआर, 420 केवी रिएक्टर - 2 (सेक्शन-I पर1 और सेक्शन-II पर 1)। • 400 केवी रिएक्टर बे - 2 • 400 केवी लाइन बे - 2 (सेक्शन-I पर)।

	(प्रत्येक सेक्शन पर 2) ➤ बे के साथ 420 केवी, 125 एमवीएआर बस- 2 (सेक्शन-I पर 1 और सेक्शन-II पर 1) ➤ 220 केवी सेक्शनलाइजर बे: 1 सेट ➤ 220 केवी बीसी और टीबीसी - प्रत्येक 1 ➤ 220 केवी लाइन बे: सेक्शन-I पर 4 और सेक्शन-II पर 8 ➤ 400 केवी एचवीएसी स्विचयार्ड तथा सभी संबंधित उपकरणों (फिल्टर सहित)/बस एक्सटेंशन आदि सहित संबद्ध इंटरकनेक्शन (प्रत्येक 400 केवी बस सेक्शन पर 2x1500 मेगावाट पोल) के साथ-साथ 6000 मेगावाट, $\pm$ 800 केवी आलेफाटा (एचवीडीसी) [एलसीसी] टर्मिनल स्टेशन (4x1500 मेगावाट) की स्थापना।	• 220 केवी लाइन बे - 4 (एमएसईटीसीएल 220 केवी लाइनों के लिए: आलेफाटा (एम) 220 केवी डी / सी और ब्रिजस्टोन 220 केवी डी / सी) • 765 केवी सेक्शनलाइजर बे: 1 -सेट • 400 केवी सेक्शनलाइजर बे: 1 - सेट
2.	आलेफाटा - लोनिकंद-I 400 केवी डी/सी लाइन (क्लाड एसीएसआर/ एएएसी/एएल 59 मूस समतुल्य) (~70 किमी.)	70 किमी (140 सीकेएम)
3.	आलेफाटा - लोनिकंद-I 400 केवी डी/सी लाइन के लिए लोनिकंद-I (एमएसईटीसीएल) एस/एस में दो 400 केवी लाइन बे	400 केवी लाइन बे - 2
4.	आलेफाटा एस/एस पर औरंगाबाद- पुणे (शिक्रापुर) (जीआईएस) 765 केवी एस/सी लाइन एवं पादघे (जीआईएस) - पुणे (शिक्रापुर) (जीआईएस) 765 केवी एस/सी लाइन का लिलो (लिलो मार्ग की लंबाई ~ 20 किमी)	लिलो मार्ग की लंबाई - 20 किमी. (80 सीकेएम)
5.	नासिक - आलेफाटा 765 केवी डी/सी लाइन (~100 किमी.)	100 किमी (200 सीकेएम)
6.	नासिक में नासिक - आलेफाटा 765 केवी डी/सी लाइन के लिए दो 765 केवी बे	765 केवी लाइन बे -2

टिप्पणी-1:

- क) नासिक एस/एस का टीएसपी, क्र.सं.-6 के रूप में उपर्युक्त कार्यक्षेत्र के लिए स्थान (निःशुल्क) उपलब्ध कराएगा।
- ख) एमएसईटीसीएल, क्र.सं.-3 के रूप में उपर्युक्त कार्यक्षेत्र के लिए स्थान (निःशुल्क) उपलब्ध कराएगा।
- ग) एमएसईटीसीएल, आलेफाटा एस/एस से 220 केवी डाउनस्ट्रीम प्रणाली को नियत समय-सीमा में लागू करेगा।

टिप्पणी-2:

क) पुणे (जीआईएस) - औरंगाबाद 765 केवी लाइन के पुणे (जीआईएस) छोर पर 240 एमवीएआर लाइन रिएक्टर पहले से ही स्विचेबल है। चूंकि आलेफाटा (पुणे (जीआईएस) - आलेफाटा) में एलआईएलओ के बाद लाइन की लंबाई कम हो जाएगी, इसलिए छोटी लाइन पर ओवरकॉम्पेनसेशन के कारण समानांतर अनुनाद की घटना से बचने के लिए एनजीआर बाईपासिंग के साथ-साथ इंटर ट्रिपिंग स्कीम को लागू करने की आवश्यकता होगी। एनजीआर बाईपास लाइन सेवा से बाहर होने पर स्विचेबल एलआर का उपयोग बस रिएक्टर के रूप में करने में भी मदद करता है। पावरग्रिड द्वारा दिनांक 02.12.2024 के ई-मेल द्वारा की गई पुष्टि के अनुसार, पुणे (जीआईएस) में 765 केवी पुणे (जीआईएस) - औरंगाबाद लाइन के 240 एमवीएआर लाइन रिएक्टर में एनजीआर बाईपास व्यवस्था उपलब्ध है। इसलिए, मुख्य लाइन ब्रेकर के साथ ट्रिप स्विचेबल एलआर को ट्रिप करने के लिए केवल इंटर ट्रिपिंग स्कीम को लिलो के कार्यान्वयन के बाद सक्षम करने की आवश्यकता होगी, जिसे टीएसपी द्वारा पावरग्रिड के समन्वय में सुनिश्चित किया जाएगा।

लिलो के बाद, आलेफाटा - औरंगाबाद लाइन की लंबाई लगभग 190-200 किमी, आलेफाटा - पदघे: लगभग 140 किमी और आलेफाटा - पुणे (जीआईएस): लगभग 70 किमी होने की उम्मीद है। लंबाई अस्थायी है और इसमें बदलाव हो सकता है।

ख) आलेफाटा - पुणे (पश्चिम) 765 केवी डी/सी लाइन को एमएसईटीसीएल द्वारा वर्ष 2030 के लिए अपनी मास्टर स्कीम में प्रस्तावित किया गया है। आवश्यकतानुसार दोनों छोरों पर संबंधित बे के साथ एमएसईटीसीएल द्वारा इसे लागू किया जा सकता है। लाइन को आलेफाटा एस/एस के 765 केवी सेक्शन-II पर समाप्त किया जाएगा।

ग) विषय स्कीम के तहत टीएसपी द्वारा आलेफाटा - लोनिक्द-1 400 केवी डी/सी लाइन और इन-एसटीएस स्कीम के तहत एमएसईटीसीएल द्वारा पुणे (पूर्व) (कर्जत-II) एस/एस - लोनिक्द-II 400 केवी डी/सी लाइन के कार्यान्वयन के बाद, लोनिक्द-1 और लोनिक्द-1 के बीच 400 केवी इंटरकनेक्टर को सामान्य रूप से खुला रखा जा सकता है (फॉल्ट नियंत्रण के लिए) और ग्रिड संचालन की आवश्यकता के आधार पर बंद किया जा सकता है। उपर्युक्त लाइनों के पूरा होने के बाद टीएसपी एमएसईटीसीएल को संवेदनशील बनाएगा।

8. बोली प्रक्रिया समन्वयक की नियुक्ति, विद्युत मंत्रालय द्वारा इस संबंध में जारी और समयसमय पर संशोधित - दिशानिर्देशों में निर्धारित शर्तों के अधीन होगी।

9. बीपीसी तकनीकी विकल्पों के माध्यम से मार्ग के अधिकार की चौड़ाई में कमी की गणना के लिए सीईए (आरओडब्ल्यू) कीसमिति की रिपोर्ट दिनांक 24.09.2024 के अनुसार आरओडब्ल्यू अनुकूलन सुनिश्चित करेंगे।

10. शहरीवन क्ष/शहरी-अर्ध/ेत्रों में मोनोपोल टॉवर संरचनाएं, इंसुलेटेड क्रॉस आर्म्स और अन्य रो कॉरिडोर अनुकूलन उपाय अपनाए जाएंगे।

11. जहां आरओडब्ल्यू की संभावना है वहां, मोनोपोल टॉवर संरचनाओं का उपयोग किया जाएगा, जबकि लैटिस टावरों का उपयोग अन्य सेक्शन में किया जाएगा।

12. इसके अलावा, मार्ग को पीएम गति शक्ति पोर्टल पर सत्यापन और भौतिक सर्वेक्षण के बाद ही अंतिम रूप दिया जाना चाहिए।

[फा. सं. 34-15/3/2026- ट्रांस]

नोओरेम इंद्रकुमार सिंह, अवर सचिव (पारेषण)

MINISTRY OF POWER**NOTIFICATION**

New Delhi, the 11th February, 2026

S.O. 725(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 the recommendations of 37th meeting of National Committee on Transmission, hereby notifies the following transmission schemes under TBCB mode, with details of respective Bid-Process Coordinator (BPC): -

1. Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)**Tentative implementation timeframe: 20.01.2029****BPC:** REC Power Development and Consultancy Limited**Scope:**

Sl. No.	Scope of the Transmission Scheme	Item Description
1.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220kV Bhadla-III PS	500 MVA, 400/220 kV ICT - 5 nos. (4 nos. ICTs in 220kV Sec-2 (6th to 9th) and 1 no. ICT in 220kV Sec-1 (10th)) 400kV ICT bays – 5 nos. 220 kV ICT bay – 4 nos. 220 kV ICT (GIS) bay – 1 no. (for 10th ICT) 220kV GIS bus duct/Cable for interconnection of 220 kV side of ICT (10th) to 220kV GIS bay (Section-1)
2.	Implementation of 5 nos. of 220kV line bays at 765/400/220kV Bhadla-III PS.	220kV line bay – 5 nos.
3.	Implementation of 1 no. of 400kV line bay at 765/400/220kV Bhadla-III PS.	400kV line bay – 1 no.
4.	Implementation of 2 sets 400kV sectionlizer bay at 765/400/220kV Bhadla-III PS	400kV sectionlizer bay – 2 sets
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS	1500 MVA, 765/400 kV ICT - 2 nos. 765kV ICT bays – 2 nos. 400 kV ICT bay – 2 nos.
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400kV Ramgarh PS	500 MVA, 400/220 kV ICT - 2 nos. 400kV ICT bays – 2 nos. 220 kV ICT bay – 2 nos.
7.	Implementation of 2 nos. of 220kV line bays at 765/400kV Ramgarh PS	220kV line bay – 2 nos.
8.	Implementation of 1 no. of 400kV line bay at 765/400kV Ramgarh PS	400kV line bay – 1 no.
9.	Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400kV Kanpur (PG) substation	1500 MVA(3x500MVA), 765/400 kV ICT - 1 no. 765kV ICT bay (GIS) including completion of diameter. 400 kV ICT bay (GIS) in existing spare bay - All associated GIS duct with terminations.

2. Transmission System for integration of Ananthpuram-III PS REZ Phase-I (3GW)**Tentative implementation timeframe:** 30 Months**BPC:** Power Finance Corporation Limited (PFC)

Scope:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1	Establishment of 3x1500 MVA, 765/400 kV and 7x500 MVA, 400/220kV Ananthapuram-III Pooling Station near Urvakonda / Beluguppa / Kalyandurg areas in Anantapur district along with 2x330 MVA (765 kV) bus reactors at Ananthapuram-III PS with provision of two (2) sections of 4500 MVA each at 400kV level Future Space Provisions: • 765/400kV, 1500 MVA, ICTs – 3 Nos. • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos. • 400/220kV, 500 MVA, ICTs – 7 Nos. • 400kV ICT bays – 7 Nos. • 220kV ICT bays – 7 Nos. • 765kV line bays – 12 Nos. (with provision for SLR) • 400kV line bays – 11 Nos. (with provision for SLR) • 220kV line bays – 15 Nos. • 220kV Bus Sectionalizer : 2 sets • 220 kV Bus Coupler (BC) Bay – 2 nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 nos. • 400kV Bus Sectionalizer : 1 set	• 765/400kV, 1500 MVA, ICTs – 3 Nos. (10x500 MVA incl. 1 spare unit) • 765kV ICT bays – 3 Nos. • 400kV ICT bays – 3 Nos. • 765kV line bays – 2 Nos. (at Ananthapuram-III PS for termination of Ananthapuram-III – Krishnagiri 765kV D/c line) • 765 kV, 330 MVA Bus Reactor – 2 Nos. (7x110 MVA inc. 1 switchable spare unit for both bus reactor and line reactor) • 765 kV Bus Reactor bays – 2 Nos. • 400/220kV, 500 MVA, ICTs – 7 Nos. • 400kV ICT bays – 7 Nos. • 220kV ICT bays – 7 Nos. • 220kV line bays – 10 Nos. • 220kV Bus Sectionalizer: 1 set • 220 kV Bus Coupler (BC) Bay – 2 Nos. • 220 kV Transfer Bus Coupler (TBC) Bay – 2 Nos.
2	± 300 MVA STATCOM at Ananthapuram-III PS	• 400kV bay – 1 no. • ± 300 MVA STATCOM – 1 set
3	Ananthapuram-III – Krishnagiri 765 kV D/c line with 240 MVA SLR (convertible) at Ananthapuram-III end on both circuits	~ 140 km • 765 kV line bays – 2 Nos. (at Krishnagiri) • 765 kV, 240 MVA SLR at Ananthapuram-III PS – 2 Nos. (7x80 MVA inc. 1 switchable spare unit) Switching Equipment for 765 kV SLR at Ananthapuram-III PS – 2 Nos.

3. Transmission system for Integration of Power from RE Projects in Jam Khambhaliya REZ in Gujarat - Phase II (5500MW) and Jamnagar Phase-I (1000 MW)

Tentative implementation timeframe: 31.03.2030

BPC: Power Finance Corporation Limited (PFC)

Scope:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment 4x1500 MVA, 765/400 kV & 10x500MVA, 400/220kV Substation near Kalyanpur (GIS) with 2x330 MVAR, 765 kV bus reactor and 2x125 MVAR, 420 kV bus reactor Future provision (space for): ➤ 765/400 kV, 1500MVA ICT along with bays- 2 Nos. (on Sec-II) ➤ 765 kV line bays along with switchable line reactors – 8 Nos. (4 Nos. on Sec-I & 4 Nos. on Sec-II) ➤ 765 kV, 330MVA Bus Reactor	• 765/400 kV, 1500 MVA ICT – 4 Nos. (13x500 MVA single phase units including one spare ICT Unit) (3 on Sec-I & 1 on Sec-II) • 400/220kV, 500MVA ICT – 10 Nos. (5 on Sec-I & 5 on Sec-II) • 765 kV ICT bays – 4 Nos. • 400 kV ICT bays – 14 Nos. • 220kV ICT bays – 10 Nos. • 765 kV Line bays – 4 Nos. (2 on Sec-I & 2 on

	along with bay: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 12 Nos. (4 Nos. on Sec-I & 8 Nos. on Sec-II) ➤ 420 kV, 125MVAR Bus Reactor along with bays: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 220 kV line bays: 3 No. on Sec-I & 3 Nos. on Section-II ➤ Establishment of 6000 MW, $\pm$ 800 kV Kalyanpur (GIS) (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment (incl. filters)/bus extension, etc. (2x1500MW Poles on each 400kV bus section) ➤ $\pm$400MVAR STATCOM with 400kV bay – 2 No. (1 on Sec-I & 1 on Sec-II)	Sec-II) • 765 kV Sectionalizer bay: 1 -set • 400 kV Sectionalization bay: 1- set • 220 kV Sectionalization bay: 1 set • 1x330 MVAR, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactors) (1 on Sec-I & 1 on Sec-II) • 765 kV Bus reactor bay – 2 Nos. • 125 MVAR, 420 kV reactor- 2 Nos. (1 on Sec-I & 1 on Sec-II) • 400 kV Reactor bay- 2 Nos. • 220kV BC Bay-2 No. • 400 kV line bay – 1 No. (for interconnection of RE Project at Sec-I) • 220kV line bays – 12 Nos. (for interconnection of RE Projects, 6 on Sec-I & 6 on Sec-II)
2.	Kalyanpur (GIS) – Jamnagar (GIS) 765 kV D/c line	95 km
3.	2 Nos. 765 kV line bays at Jamnagar (GIS) S/s	765 kV line bays – 2 Nos. (GIS)
4.	Kalyanpur (GIS) – Saurashtra (near Rajkot) (GETCO) 765 kV D/c line	225km.
5.	330MVAR Switchable line reactors on each circuit at Kalyanpur (GIS) end of Kalyanpur (GIS) – Saurashtra (near Rajkot) (GETCO) 765 kV D/c line (with NGR bypass arrangement)	• 330 MVAR, 765 kV switchable line reactor- 2 Nos. • Switching equipment for 765 kV line reactor- 2 Nos.
6.	2 Nos. 765 kV line bays at Saurashtra (near Rajkot) (GETCO) S/s	• 765 kV line bays – 2 Nos.
7.	Installation of Synchronous Condenser (+300/-200MVAR) (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum) at Kalyanpur (GIS)– 2 Nos. Value of Inertia (MW-s) shall be defined in RfP document.	• Synchronous Condenser along with associated 400kV Bay-2 Nos. (one on each Sec-I & II)
8.	Creation of 220kV switchyard along with Installation of 3x500MVA, 400/220kV ICTs at Jamnagar (GIS) S/s	• Creation of 220kV Bus Section-I • 220kV BC Bay – 1 No. • 400/220 kV, 500 MVA ICT – 3 Nos. (on 400kV & 220kV Sec-I) • 400 kV ICT bays – 1 No. (2 Nos. ICTs to be terminated in 2 nos. GIS bays being implemented as part of Diameter completion at Jamnagar S/s under “Network Expansion scheme in Gujarat for drawl of about 3.6 GW load under Phase-I in Jamnagar area” scheme) • 220kV ICT bays – 3 Nos.
9.	4 nos. 220kV line bays for RE interconnection	220kV line bays – 4 Nos.

Note:

- TSP of Jamnagar S/s shall provide space for above scope of work at Sl. 3, 8 & 9 on free of cost

basis

- GETCO shall provide space for above scope of work at Sl. 6 on free of cost basis
- Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- Above Syncons (at Sl. 7) shall be considered as 'transmission asset' similar to STATCOM & SVC for its tariff mechanism.

4. . Transmission system for Integration of Power from RE Projects in Lakadia REZ in Gujarat-Phase II (7500MW)

Tentative implementation timeframe: 36 Months

BPC: REC Power Development and Consultancy Limited

Scope:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 765/400 kV, 6x1500MVA & 10x500MVA, 400/220kV Lakadia-II (Near Chitrod) with 2x330 MVAR 765kV bus reactor and 2x125 MVAR 400kV bus reactor. <i>[765kV, 400kV & 220kV levels to be established in two sections with Sectionaliser arrangement. The 220kV Sectionaliser shall be kept normally open and may be closed under contingency condition. The 400kV and 765kV Sectionaliser shall be kept normally closed. The bus operation may be reviewed after proposed HVDC implementation as per requirement of Grid operator. (3x1500MVA 765/400kV ICTs, 5x500MVA 400/220kV ICTs, 1x330MVA 765kV BR & 1x125MVA 420kV BR shall be on Sec-I & 3x1500MVA 765/400kV ICTs, 5x500MVA 400/220kV ICTs, 1x330MVA 765kV BR & 1x125MVA 420kV BR shall be on Sec-II)]</i> Future provision (space for): ➤ 765 kV line bays along with switchable line reactors – 6 Nos. (2 Nos. on Sec-I & 4 Nos. on Sec-II) ➤ 765 kV Bus Reactor along with bay: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 7 Nos. (3 on Sec-I & 4 on Sec-II) + 4 Nos. 400kV bays (2 nos. on each section) for HVDC Interconnection ➤ 420 kV, 125MVA Bus Reactor along with bays: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 220 kV line bays: 2 No. on Sec-I & 1 Nos. on Section-II ➤ Establishment of 6000 MW, ± 800 kV Lakadia-II (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment (incl. filters)/bus extension, etc. (2x1500MW poles on each 400kV section)	• 765/400 kV, 1500 MVA ICT – 6 Nos. (19x500 MVA single phase units including one spare ICT Unit) • 400/220 kV ICTs - 10 Nos. (5 on Sec-I & 5 on Sec-II) • 765 kV ICT bays – 6 Nos. • 400 kV ICT bays – 16 Nos. • 220kV ICT bays – 10 Nos. • 1x330 MVA, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor) (1 on Sec-I & 1 on Sec-II) • 765 kV Bus reactor bay – 2 Nos. • 765kV line bays: 8 nos. (4 Nos. on Sec-I (2 for Halvad D/c & 2 for Ahmedabad D/c) and 4 Nos. on Sec-II (2 for Kandla D/c and 2 for Vataman)) • 765 kV Sectionaliser bay: 1 -set • 400 kV Sectionaliser bay: 1- set • 220 kV Sectionaliser bay: 1- set • 220kV BC– 2 No. • 220kV TBC – 2 No. • 125 MVA, 420 kV reactor- 2 Nos. (1 on Sec-I & 1 on Sec-II) • 400 kV Reactor bay- 2 Nos. • 400 kV line bays - 3 Nos. (2 nos. on Section-I & 1 No. on Sec-II for interconnection of RE Projects) • 220 kV line bays - 15 Nos. (7 nos. on Sec-I & 8 nos. on Sec-II for interconnection of RE Projects)

	➤ Synchronous Condenser (+300/-200MVar) along with 400kV bay – 2 Nos. (1 on Sec-I & 1 on Sec-II)	
2.	Installation of Synchronous Condenser (+300/-200MVar) (Minimum) & Short circuit contribution at PCC of 1200MVA (Minimum) at Lakadia-II – 2 Nos. Value of Inertia (MW-s) shall be defined in RfP document.	Synchronous Condenser along with associated 400kV Bay-2 Nos. (one each on Sec-I & II)
3.	LILO of Halvad – Kandla 765kV D/c line at Lakadia-II	LILO route length ~22km. (88ckm)
4.	Lakadia-II – Ahmedabad 765kV D/c line	190 km (380 ckm)
5	2 Nos. 765 kV line bays at Ahmedabad S/s for Lakadia-II – Ahmedabad 765kV D/c line	765 kV line bays – 2 Nos. (AIS)
6	765kV, 330MVar Switchable line reactors on each circuit at Ahmedabad end of Lakadia-II – Ahmedabad 765kV D/c line	• 330 MVar, 765 kV switchable line reactor- 2 Nos. • 765 kV Switchable Line Reactor Bay - 2 Nos. • 110MVar spare single phase reactor at Ahmedabad S/s is already available and same shall be used for subject Sw LR.
7	Lakadia-II – Vataman 765kV D/c line (220km.)	220 km (440 ckm)
8	2 Nos. 765 kV line bays at Vataman S/s for Lakadia-II – Vataman 765kV D/c line	765 kV line bays – 2 Nos. (AIS)
9	765kV, 240MVar Switchable line reactors on each circuit at both ends of Lakadia-II – Vataman 765kV D/c line	• 240 MVar, 765 kV switchable line reactor- 4 Nos. (2 for Lakadia-II end and 2 for Vataman end) • 765 kV switchable Line Reactor Bay - 4 Nos (2 for Lakadia-II end and 2 for Vataman end) • 80MVar spare single-phase reactor at Lakadia-II for above 240MVar Sw LR. • 80MVar spare single-phase reactor at Vataman S/s is already available and same shall be used for subject Sw LR.

Note:

- TSPs of Ahmedabad S/s & Vataman S/s to provide space for above scope of work in their respective substations (free of cost)
- Above Syncons (at Sl. No. 2) shall be considered as 'transmission asset' similar to STATCOM & SVC for its tariff mechanism.

5. Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) - Part-A

Tentative implementation timeframe: 36 Months

BPC: Power Finance Corporation Limited (PFC)

Scope:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Augmentation of transformation capacity at South Olpad (GIS) S/s by 1x1500MVA, 765/400kV (3 rd) ICT	• 765/400 kV, 1500 MVA ICT – 1 No. • 765 kV ICT bays – 1 No. (GIS) (Being constructed as a part of diameter completion under Khavda Ph-IV Part-C Scheme) • 400 kV ICT bays – 1 No. (GIS)
2.	Vadodara(GIS) – Halvad 765kV D/c line to be	250 km (500 ckm)

	terminated into Lakadia – Halvad 765kV D/c line (near Halvad S/s) so as to form Lakadia – Vadodara (GIS) 765kV D/c line	<i>(Length of complete Lakadia – Vadodara (GIS) 765kV D/c line after implementation of above line section between Vadodara and Halvad is expected to be around 350km.)</i>
3.	765kV line bays at Vadodara (GIS) end for termination of Lakadia – Vadodara 765kV D/c line (formed as per details above at Sl. 2)	765kV line bays – 2 nos. (GIS) (being constructed as a part of diameter completion under “Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part B” . Line side equipment for termination of the line at these bays to be implemented under the subject transmission scheme)
4.	765kV, 240MVAR Switchable line reactors on each circuit at Vadodara (GIS) end of Lakadia – Vadodara (GIS) 765kV D/c line (formed as per details above at Sl. 2)	240 MVAR, 765 kV switchable line reactor- 2 Nos. 765 kV switchable Line Reactor Bay- 2 Nos. (being constructed as a part of diameter completion under “Transmission System for Evacuation of Power from potential renewable energy zone in Khavda area of Gujarat under Phase-IV (7 GW): Part B”) 80MVAR, 1-Ph spare reactor at Vadodara S/s is already available and same shall be utilized for subject switchable LR.
5.	765kV, 330MVAR Switchable Mid-point reactors at the bypass point at Halvad Switching Station on Lakadia – Vadodara (GIS) 765kV D/c line (refer Note d)	330 MVAR, 765 kV switchable line reactor- 2 Nos. 765 kV switchable Line Reactor Bay - 2 Nos. 110MVAR spare single phase reactor at bypass point near Halvad S/s

Note:

- Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- TSP of South Olpad S/s to provide space for above scope of work as Sl. 1 (Free of cost)
- TSP of Vadodara (GIS) to provide space for above scope of work as Sl. 3 & 4 (Free of cost)
- As the provision for 765kV, 330MVAR switchable mid-point reactor at the bypass point at Halvad Switching Station on Lakadia – Vadodara (GIS) 765kV D/c line was not envisaged while allocating space for future scope at Halvad Switching Station under the **“Transmission Scheme for evacuation of additional 7GWE of RE power from Khavda RE Park under Phase III Part A”** project (under implementation by Halvad Transmission Ltd-AESL), the reactor shall be installed at Halvad Switching Station by utilizing the space reserved for other transmission elements, which will be specified in the RfP document.

6. Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) - Part-B

Tentative implementation timeframe: 36 Months

BPC: REC Power Development and Consultancy Limited

Scope:

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 765/400 kV, 3x1500MVA & 400/220kV, 3x500MVA Nasik S/s (towards South of Nasik) with 2x330 MVAR 765kV bus reactor and 2x125 MVAR 400kV bus reactor. Future provision (space for):	765/400 kV, 1500 MVA ICT – 3 Nos. (10x500 MVA single phase units including one spare ICT Unit) 400/220 kV ICTs - 3 Nos.

	➤ 765/400 kV, 1500MVA ICT along with bays- 3 Nos. (on Sec-II) ➤ 765 kV line bays along with switchable line reactors – 10 Nos. (4 Nos. on Sec-I & 6 Nos. on Sec-II) ➤ 765 kV, 330MVA Bus Reactor along with bay: 2 Nos. (on Sec-II) ➤ 765 kV Sectionaliser bay: 1 -set ➤ 400 kV Sectionaliser bay: 1- set ➤ 400/220 kV, 500MVA ICT along with bays - 7 Nos. (2 on Sec-I & 5 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 10 Nos. (4 on Sec-I & 6 on Sec-II) ➤ 420 kV, 125MVA Bus Reactor along with bays: 2 Nos. (on Sec-II) ➤ 220 kV Sectionaliser bay: 1- set ➤ 220kV BC & TBC – 1 No. each ➤ 220 kV line bays: 2 No. on Sec-I & 8 Nos. on Section-II	• 765 kV ICT bays – 3 Nos. • 400 kV ICT bays –6 Nos. • 220kV ICT bays – 3 Nos. • 765 kV Line bays – 2 Nos. • 1x330 MVA, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor) • 765 kV Bus reactor bay – 2 Nos. • 220kV BC– 1 No. • 220kV TBC – 1 No. • 125 MVA, 420 kV reactor- 2 Nos. • 400 kV Reactor bay- 2 Nos. • 400 kV line bays - 2 Nos. • 220 kV line bays - 6 Nos. (for MSETCL 220kV lines: Adwadi 220kV D/c, Nasik GCR 220kV D/c & Nasik OCR 220kV D/c)
2.	South Olpad (GIS) – Nasik 765kV D/c line (240km.)	• 240 km (480 ckm)
3.	2 Nos. 765 kV line bays at South Olpad (GIS) S/s (Sec-II) for South Olpad – Nasik 765kV D/c line	• 765 kV line bays – 2 Nos. (GIS) (Sec-II) along with 1 Set of 765kV sectionaliser so as to establish 765kV Sec-II.
4.	765kV, 240MVA Switchable line reactors on each circuit at both ends of South Olpad – Nasik 765kV D/c line	• 240 MVA, 765 kV switchable line reactor- 4 Nos. (2 for South Olpad end and 2 for Nasik end) • 765 kV switchable Line Reactor Bay - 4 Nos. (2 for South Olpad end and 2 for Nasik end) • 80MVA spare single-phase reactor at Nasik for above 240MVA switchable LR. • 80MVA spare single-phase reactor at South Olpad S/s is already available and same shall be used for subject switchable LR.
5.	Nasik – Pimpalgaon (MSETCL) 400kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent) (Line to be routed from near Sinner TPP / Raymond i.e. from eastern side of Nasik).	80km. (160ckm)
6.	2 Nos. 400 kV line bays at Pimpalgaon S/s for Nasik – Pimpalgaon (MSETCL) 400kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent)	400 kV line bays – 2 Nos.

Note:

- a) Bay(s) required for completion of diameter (GIS) in one-and-half breaker scheme shall also be executed by the TSP.
- b) TSP of South Olpad(GIS) to provide space for above scope of work (Free of cost)

- c) MSETCL to provide space for above scope of work at Pimpalgaon S/s (Free of cost)
d) MSETCL to implement 220kV downstream system from Nasik S/s in matching time-frame.

7. Common Transmission System for evacuation of power from Lakadia (Phase-II: 7.5GW), Jam Khambhaliya (Phase-II: 5.5GW) and Jamnagar (Phase-I: 1GW) - Part-C

Tentative implementation timeframe: 36 Months

BPC: Power Finance Corporation Limited (PFC)

Sl. No.	Scope of the Transmission Scheme	Capacity /km
1.	Establishment of 765/400 kV, 2x1500MVA & 400/220kV, 3x500MVA Alephata S/s with 2x330 MVAR 765kV bus reactor and 2x125 MVAR 400kV bus reactor. [765kV & 400kV Bus sectionalisers to be kept normally closed. May be opened based on Grid conditions] Future provision (space for): ➤ 765/400 kV, 1500MVA ICT along with bays- 4 Nos. (2 on Sec-I & 2 on Sec-II) ➤ 765 kV line bays along with switchable line reactors – 6 Nos. (2 Nos. on Sec-I & 4 Nos. on Sec-II) ➤ 765 kV, 330MVA Bus Reactor along with bay: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 400/220 kV, 500MVA ICT along with bays - 7 Nos. (2 on Sec-I & 5 on Sec-II) ➤ 400 kV line bays along with switchable line reactors– 10 Nos. (4 on Sec-I & 6 on Sec-II) + 4 nos. 400kV bays (2 nos. on each section) for HVDC Interconnection ➤ 420 kV, 125MVA Bus Reactor along with bays: 2 Nos. (1 on Sec-I & 1 on Sec-II) ➤ 220 kV Sectionaliser bay: 1- set ➤ 220kV BC & TBC – 1 No. each ➤ 220 kV line bays: 4 No. on Sec-I & 8 Nos. on Section-II ➤ Establishment of 6000 MW, ± 800 kV Alephata (HVDC) [LCC] terminal station (4x1500 MW) along with associated interconnections with 400 kV HVAC Switchyard & all associated equipment (incl. filters)/bus extension, etc. (2x1500MW poles on each 400kV section)	• 765/400 kV, 1500 MVA ICT – 2 Nos. (7x500 MVA single phase units including one spare ICT Unit) (1 on Sec-I & 1 on Sec-II) • 400/220 kV ICTs – 3 Nos. (on Sec-I) • 765 kV ICT bays – 2 Nos. • 400 kV ICT bays – 5 Nos. • 220kV ICT bays – 3 Nos. • 765 kV Line bays – 6 Nos. (4 on Sec-I: Nasik D/c, Pune (Shikrapur) & Padghe S/c & 2 on Sec-II: Pune (Shikrapur) & Aurangabad) • 1x330 MVA, 765 kV bus reactor- 2 Nos. (7x110 MVAR single phase Reactors including one spare Unit for bus /line reactor) (1 on Sec-I & 1 on Sec-II) • 765 kV Bus reactor bay – 2 Nos. • 220kV BC– 1 No. • 220kV TBC – 1 No. • 125 MVA, 420 kV reactor- 2 Nos. (1 on Sec-I & 1 on Sec-II) • 400 kV Reactor bay- 2 Nos. • 400 kV line bays - 2 Nos. (on Sec-I) • 220 kV line bays - 4 Nos. (for MSETCL 220kV lines: Alephata(M) 220kV D/c & Bridgestone 220kV D/c) • 765 kV Sectionaliser bay: 1 -set • 400 kV Sectionaliser bay: 1- set
2.	Alephata – Lonikand-I 400kV D/c line (Quad ACSR/AAAC/AL59 moose equivalent) (~70km.)	70 km (140 ckm)
3.	2 Nos. 400 kV line bays at Lonikand-I (MSETCL) S/s for Alephata – Lonikand-I 400kV D/c line	400 kV line bays – 2 Nos.
4.	LILO of Aurangabad – Pune (Shikrapur) (GIS) 765kV S/c line and Padghe (GIS) – Pune (Shikrapur) (GIS) 765kV S/c line at Alephata S/s (LILO route length ~ 20km.)	LILO route length – 20 km. (80ckm)
5.	Nasik – Alephata 765kV D/c line (~100km.)	100 km (200 ckm)
6.	2 Nos. 765kV bays at Nasik for Nasik – Alephata 765kV D/c line	765 kV Line bays – 2 Nos.

Note-1:

- a) TSP of Nasik S/s to provide space for above scope of work as Sl. 6 (Free of cost)
- b) MSETCL to provide space for above scope of work as Sl. 3 (Free of cost)
- c) MSETCL to implement 220kV downstream system from Alephata S/s in matching time-frame.

Note-2:

- a) 240MVar line reactor at Pune(GIS) end of Pune(GIS) – Aurangabad 765kV line is already switchable. Since length of the line will reduce after the LILO at Alephata (Pune(GIS) – Alephata), NGR Bypassing along with Inter tripping scheme would need to be implemented to avoid parallel resonance phenomena due to overcompensation on the short line. NGR bypassing also helps in utilization of switchable LR as Bus Reactor when line is out of service. As confirmed by POWERGRID vide e-mail dated 02.12.2024, NGR bypass arrangement in 240MVar line reactor at Pune(GIS) end of 765kV Pune(GIS) – Aurangabad line is available. Hence, only Inter tripping scheme to trip switchable LR along with main line breaker would need to be enabled after implementation of LILO, which shall be ensured by TSP in coordination with POWERGRID.

After the LILO, Alephata – Aurangabad line length is expected to be ~190-200km, Alephata – Padghe: ~140km. & Alephata – Pune(GIS): ~70km. The lengths are tentative and subject to change.

- b) Alephata – Pune(West) 765kV D/c line has been proposed by MSETCL in its master plan for 2030. Same may be implemented by MSETCL along with associated bays at both ends as per requirement. Line shall be terminated at 765kV Sec-II of Alephata S/s.
- c) After implementation of Alephata – Lonikand-I 400kV D/c line by TSP under subject scheme and Pune(East)(Karjat-II) S/s – Lonikand-II 400kV D/c line by MSETCL under In-STS scheme, 400kV interconnector between Lonikand-I and Lonikand-II may be kept normally open (for fault level control) and may be closed based on requirement of Grid Operation. TSP to sensitize MSETCL after completion of above lines.

8. 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, amended from time to time.

9. BPCs shall ensure RoW optimization as per the CEA's Committee report dated 24.09.2024 for calculation of reduction of Right of Way (RoW) Width through Technological Options.

10. Monopole tower structures, insulated cross arms and other RoW corridor optimization measures to be adopted in urban/ semi-urban /forest areas.

11. Monopole tower structures to be used where RoW issues are anticipated, while lattice towers shall be used in other sections.

12. Further, the route must be finalised after validation on PM Gati Shakti portal and physical survey.

[F. No. 34-15/3/2026-Trans]

NAOREM INDRAKUMAR SINGH. Under Secy. (Transmission)

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

**AUGMENTATION AT BHADLA-III, RAMGARH PS AND
KANPUR (PG)**

ISSUED BY

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

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

25.03.2026

REC Power Development and Consultancy 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 “Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)” 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
(A wholly owned subsidiary of REC Limited)

Email:

Place:

Date:

Signature:

REQUEST FOR PROPOSAL NOTIFICATION

REC Power Development and Consultancy 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 Gazette Notification no. CG-DL-E-19022026-270309 dated 12.02.2026 has notified REC Power Development and Consultancy Limited (RECPDCL) to be the Bid Process Coordinator (BPC) for the purpose of selection of Bidder as Transmission Service Provider (TSP) to establish Inter-State transmission system for **“Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)”** 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 - **“Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)”** (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.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220 kV Bhadla-III PS • 500 MVA, 400/220 kV ICT - 5 Nos. (4 Nos. ICTs in 220 kV Sec-2 (6th to 9th) and 1 No. ICT in 220 kV Sec-1 (10th)) • 400 kV ICT bay – 5 Nos. • 220 kV ICT bay – 4 Nos. • 220 kV ICT (GIS) bay – 1 No. (for 10th ICT) • 220 kV GIS bus duct/Cable for interconnection of 220 kV side of ICT (10th) to 220 kV GIS bay (Section-1)	20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1))
2.	Implementation of 5 Nos. of 220 kV line bays at 765/400/220 kV Bhadla-III PS. • 220 kV line bay – 5 Nos.	
3.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Bhadla-III PS. • 400 kV line bay – 1 No.	
4.	Implementation of 2 sets 400 kV sectionlizer bay at 765/400/220 kV Bhadla-III PS	

Sl. No.	Scope of the Transmission Scheme	Scheduled COD in months from Effective Date
	400 kV sectionlizer bay – 2 sets	
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS 1500 MVA, 765/400 kV ICT - 2 Nos. 765 kV ICT bay – 2 Nos. 400 kV ICT bay – 2 Nos.	
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS 500 MVA, 400/220 kV ICT - 2 Nos. 400 kV ICT bays – 2 Nos. 220 kV ICT bay – 2 Nos.	
7.	Implementation of 2 Nos. of 220 kV line bays at 765/400/220 kV Ramgarh PS 220 kV line bay – 2 Nos.	
8.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Ramgarh PS 400 kV line bay – 1 No.	
9.	Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400 kV Kanpur (PG) substation 1500 MVA (3x500 MVA), 765/400 kV ICT - 1 No. 765 kV ICT bay (GIS) including completion of diameter. 400 kV ICT bay (GIS) in existing spare bay - All associated GIS duct with terminations.	

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 14/14A/14B 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 bidders 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 (Insert the name of 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 (Insert the name of 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, vijay.kulkarni@recpdcl.in & tbc@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 26.05.2026 via electronic transfer to the following Bank Account:

Bank Name, Address & Branch	ICICI Bank 9A, Phelps Building, Inner Circle, Connaught Place, New Delhi-110001
Bank Account Name	REC Power Development & Consultancy Limited
Bank Account No	000705041275
Bank IFSC Code No	ICIC0000007

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 25.03.2026 to 26.05.2026 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 1500 hours (IST) on 28.05.2026. Technical Bid will be opened by the Bid Opening Committee on the same day at 1530 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 14/14A/14B 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 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.

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
(A wholly owned subsidiary of REC Limited)
REC Corporate Head Quarter,

D Block, Plot No. I – 4,
Sec – 29 Gurugram – 122 001
Email: vijay.kulkarni@recpdcl.in & tbc@recpdcl.in

Amendment-I dated 27.05.2026 to the RFP Documents for selection of bidder as Transmission Service Provider for "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through tariff based competitive bidding process.

Sl. No.	Clause No.	Existing Clause	New/Revised Clause																																				
1	RFP, TSA & SPA	Name of the Project Specific SPV	All the reference to the name of the SPV may be read as “ BHADLA RAMGARH POWER TRANSMISSION LIMITED ”																																				
2	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 1500 hours (IST) on 28.05.2026 . 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 1500 hours (IST) on 04.06.2026 . 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.																																				
3	2.7.2 of RFP	Important timelines are mentioned below: <table><tr><th>Date</th><th>Event</th></tr><tr><td>28.05.2026</td><td>Submission of Bid (Online submission of Bid through electronic bidding portal)</td></tr><tr><td>28.05.2026</td><td>Opening of Technical Bid</td></tr><tr><td>04.06.2026</td><td>Short listing and announcement of Qualified Bidders on bidding portal</td></tr><tr><td>08.06.2026</td><td>Opening of Financial Bid - Initial Offer</td></tr><tr><td>09.06.2026</td><td>Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.</td></tr><tr><td>12.06.2026</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>17.06.2026</td><td>Selection of Successful Bidder and issue of LOI</td></tr><tr><td>29.06.2026</td><td>Signing of RFP Project Documents and transfer of(Insert the name of SPV)</td></tr></table>	Date	Event	28.05.2026	Submission of Bid (Online submission of Bid through electronic bidding portal)	28.05.2026	Opening of Technical Bid	04.06.2026	Short listing and announcement of Qualified Bidders on bidding portal	08.06.2026	Opening of Financial Bid - Initial Offer	09.06.2026	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	12.06.2026	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer	17.06.2026	Selection of Successful Bidder and issue of LOI	29.06.2026	Signing of RFP Project Documents and transfer of(Insert the name of SPV)	Important timelines are mentioned below: <table><tr><th>Date</th><th>Event</th></tr><tr><td>04.06.2026</td><td>Submission of Bid (Online submission of Bid through electronic bidding portal)</td></tr><tr><td>04.06.2026</td><td>Opening of Technical Bid</td></tr><tr><td>12.06.2026</td><td>Short listing and announcement of Qualified Bidders on bidding portal</td></tr><tr><td>15.06.2026</td><td>Opening of Financial Bid - Initial Offer</td></tr><tr><td>16.06.2026</td><td>Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.</td></tr><tr><td>19.06.2026</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>24.06.2026</td><td>Selection of Successful Bidder and issue of LOI</td></tr><tr><td>06.07.2026</td><td>Signing of RFP Project Documents and transfer of BHADLA RAMGARH POWER TRANSMISSION LIMITED</td></tr></table>	Date	Event	04.06.2026	Submission of Bid (Online submission of Bid through electronic bidding portal)	04.06.2026	Opening of Technical Bid	12.06.2026	Short listing and announcement of Qualified Bidders on bidding portal	15.06.2026	Opening of Financial Bid - Initial Offer	16.06.2026	Electronic reverse auction (Financial Bid – Final Offer) for the Qualified Bidders.	19.06.2026	Submission of original hard copies of Annexure 3, Annexure 4, Annexure 6, as applicable and Annexure 14 by the bidder with lowest Final Offer	24.06.2026	Selection of Successful Bidder and issue of LOI	06.07.2026	Signing of RFP Project Documents and transfer of BHADLA RAMGARH POWER TRANSMISSION LIMITED
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4	2.13.1 of RFP	 Opening of Envelope (Technical Bid): 1530 hours (IST) on 28.05.2026 Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1530 hours (IST) on 08.06.2026 in the office of CEA.	 Opening of Envelope (Technical Bid): 1530 hours (IST) on 04.06.2026 Opening of Initial Offer: Initial Offer shall be opened by the Bid Opening Committee in presence of the Bid Evaluation Committee at 1530 hours (IST) on 15.06.2026 in the office of CEA.																																				

[Signature]

P. Baid

Ref.: RECPDCL/TBCB/Inter-state/Aug.-Bhadla-III/2025-26/5910

दिनांक: 27.03.2026

संकेतरी,
केन्द्रीय विद्युत विनियामक आयोग,
6वीं, 7वीं और 8वीं मंजिल, टावर-बी, वर्ल्ड ट्रेड सेंटर
नौरोजी नगर, तीसरा नई दिल्ली – 110029

Subject: Global Invitation for selection of Transmission Service Provider to establish Transmission system for the project namely "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" -Copy of RFP documents.

महोदय,

Kind reference is invited to the Gazette Notification No.5827 CG-DL-E-19022026-270309 dated 12.02.2026, issued by Ministry of Power, Government of India wherein REC Power Development and Consultancy Limited has been appointed as Bid Process Coordinator (BPC) for selection of bidder as Transmission Service Provider to establish Inter-State transmission projects on Build, Own, Operate & Transfer (BOOT) basis.

In this regard, we would like to intimate that the RFP process for the subject cited project has been initiated by way of Global Invitation in National/International newspapers i.e. Hindustan Times Package on 25.03.2026 & Financial Times Package on 27.03.2026. The important timelines in this regard are as below. :-

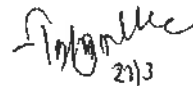
Sr. No.	Name of the Project	Last date of RFP Purchase	Last date for submission of response to RFP
1.	Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)	26.05.2026	28.05.2026 up to 1500 Hrs (IST)

The RfP notification and RfP document for the above project has also been uploaded on our websites www.recindia.nic.in and www.recpdcl.in.

In this regard, copy of Request for Proposal (RfP), Transmission Service Agreement (TSA) and Share Purchase Agreement (SPA) along with copies of newspaper notification of the subject project are enclosed herewith for your kind information and reference please.

धन्यवाद,

भवदीय,



(विजय कुलकर्णी)

वरिष्ठ महाप्रबंधक एवं विभागाध्यक्ष (टी & डी)

संलग्न: जैसा कि ऊपर बताया गया है

Ref.: RECPDCL/TBCB/Inter-state/Aug.-Bhadla-III/2025-26/59/2

दिनांक: 27.03.2026

निदेशक (ट्रांसडेस्क)

ऊर्जा मंत्रालय,

श्रमशक्ति भवन, रफी मार्ग,

नई दिल्ली-110001

Subject: Global Invitation for selection of Transmission Service Provider to establish Transmission system for the project namely "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" -Copy of RFP documents.

महोदय,

Kind reference is invited to the Gazette Notification No.5827 CG-DL-E-19022026-270309 dated 12.02.2026, issued by Ministry of Power, Government of India wherein REC Power Development and Consultancy Limited has been appointed as Bid Process Coordinator (BPC) for selection of bidder as Transmission Service Provider to establish Inter-State transmission projects on Build, Own, Operate & Transfer (BOOT) basis.

In this regard, we would like to intimate that the RFP process for the subject cited project has been initiated by way of Global Invitation in National/International newspapers i.e. Hindustan Times Package on 25.03.2026 & Financial Times Package on 27.03.2026. The important timelines in this regard are as below. :-

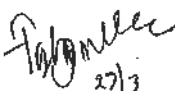
Sr. No.	Name of the Project	Last date of RFP Purchase	Last date for submission of response to RFP
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The RfP notification and RfP document for the above project has also been uploaded on our websites www.recindia.nic.in and www.recpdcl.in.

In this regard, copy of Request for Proposal (RfP), Transmission Service Agreement (TSA) and Share Purchase Agreement (SPA) along with copies of newspaper notification of the subject project are enclosed herewith for your kind information and reference please.

धन्यवाद,

भवदीय,


27/3
(विजय कुलकर्णी)

वरिष्ठ महाप्रबंधक एवं विभागाध्यक्ष (टी & डी)

संलग्न: जैसा कि ऊपर बताया गया है



**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 BHADLA RAMGARH POWER TRANSMISSION LIMITED is incorporated on this EIGHTH day of MAY TWO THOUSAND TWENTY SIX 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 **U42202DL2026GOI466318**

The Permanent Account Number (PAN) of the company is **AAOCB7247D***

The Tax Deduction and Collection Account Number (TAN) of the company is **DELB32446B***

Given under my hand at Manesar this EIGHTH day of MAY TWO THOUSAND TWENTY SIX

Signature Not Verified

Digitally signed by
DS MINISTRY OF CORPORATE
AFFAIRS , CRC MANESAR 2
Date: 2026.05.08 16:30:53 IST

Indora Deepmala

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

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

BHADLA RAMGARH POWER TRANSMISSION LIMITED

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

*as issued by Income tax Department





संदर्भ संख्या: RECPDCL/TBCB/Bhadla Ramgarh/26-27/706

दिनांक: 21.05.2026

M/s Power Grid Corporation of India Limited,
'Saudamini', Plot no. 2, Sector – 29,
Gurgaon – 122001 (Haryana).

Kind Attention: Shri Pankaj Pandey, Executive Director

विषय: Selection of Bidder as Transmission service Provider to establish Inter-State Transmission system for "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)"- **Issuance of Tentative Acquisition Price regarding.**

महोदय,

This has reference to the RFP dated 25.03.2026 for selection of Transmission service Provider to establish Inter-State Transmission system for "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through tariff based competitive bidding process.

As per the requirement of Clause 1.5 of RFP, we would like to intimate you that the Tentative Acquisition Price payable by the Selected Bidder to the BPC for the acquisition of one hundred percent (100%) of the equity shareholding of "BHADLA RAMGARH POWER TRANSMISSION LIMITED" along with all its related assets and liabilities is **Rs. 1313.19 Lakhs (Rupees Thirteen Crore Thirteen Lakhs Nineteen Thousand Only)**. This Acquisition Price shall be subject to adjustment based on the audited accounts of "BHADLA RAMGARH POWER TRANSMISSION LIMITED" as on the date of execution of the Share Purchase Agreement.

It may please be noted that as on date, there are no contractual obligations undertaken by BPC on behalf of "BHADLA RAMGARH POWER TRANSMISSION LIMITED" which are to be fulfilled by the TSP.

All other terms and conditions of the RFP remain the same.

धन्यवाद,

भवदीय,

(Handwritten signature) 21.05.26
रत्नेश कुमार

महाप्रबंधक (इंजीनियरिंग)

Ref No.: REC PDCL/FIN/BRPTL/2026-27 **259**

Dated: 24.07.2026

To,

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

Kind Attention: Sh. Pankaj Pandey, Executive Director

Subject: Payment of Acquisition Price towards handing over of M/s. BHADLA RAMGARH POWER TRANSMISSION LIMITED.

Sir,

This is to inform that the acquisition price of M/s. Bhadla Ramgarh Power Transmission Limited is **Rs 12,85,79,427/- (Rupees Twelve Crore Eighty-Five Lakh Seventy-Nine Thousand Four Hundred Twenty-Seven Only)** as per the breakup given below:

S No	Particulars	Amount (INR)
1	Professional Fee of BPC #	12,22,01,980
2	Reimbursement of cost incurred by BPC #	58,77,447
3	Share Capital of Bhadla Ramgarh Power Transmission Limited	5,00,000
Acquisition Value/ Net Amount Payable by Bidder		12,85,79,427

including GST

Kindly credit the above total amount i.e., **Rs. 12,85,79,427/-** in the below mentioned Bank Account of REC Power Development and Consultancy Limited. TDS will be deposited by RECPDCL on behalf and under TAN of Bhadla Ramgarh Power Transmission Limited.

Page No. 1/2

The acquisition price may be credited to our account through RTGS as per the following:

Bank Name, Address & Branch	IDFC First Bank Limited Gurgaon Golf Course Road Branch, Ground Floor Unit no. CG-01A and 01B, Gurgaon - 122003
Bank Account Name	REC Power Development and Consultancy Ltd
Bank Account No	10171707713
Bank IFSC Code No	IDFB0021001

Thanking You,

Yours faithfully



(Sumit Mehra)
DGM (F&A), RECPDCL

Date: 29.06.2026

CERTIFICATE BY BID EVALUATION COMMITTEE

Subject: Selection of Successful Bidder as Transmission Service Provider through Tariff Based Competitive Bidding Process to establish Inter-State Transmission system for "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)"

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. M/s Power Grid Corporation of India Limited, with the lowest annual transmission charges of Rs. 1,193.45 million, emerged as the successful bidder after the conclusion of electronic reverse auction.
- c. The transmission charges of Rs. 1,193.45 million discovered after electronic reverse auction is acceptable.



(Amit Jog)
General Manager,
CCGRO-II, SBI
Chairman, BEC



(Bhanwar Singh Meena)
Director (PSPA-I),
CEA
Member, BEC



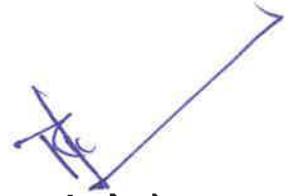
(Kavita Jha)
Director (PSETD),
CEA
Member, BEC



(Rakesh Kumar)
SE (PPP),
UPPTCL,
Member, BEC



(R.C. Mahavar)
Add. CE(Procurement),
RVPN
Member, BEC



(Rajkumar Sonkar)
Chairman -SPV
Convener - Member,
BEC



ORIGINAL

M/s Power Grid Corporation of India Limited

'Saudamini', Plot no. 2, Sector – 29,

Gurugram – 122001 (Haryana)

Kind Attention: Sh. Pankaj Pandey, Executive Director

Subject: Establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through Tariff Based Competitive Bidding Process (TBCB) – Letter of Intent

Sir,

We refer to:

1. The Request for Proposal (RfP) dated 25.03.2026 comprising RfP, Draft Transmission Service Agreement and Share Purchase Agreement issued to M/s Power Grid Corporation of India Limited, as regards participation in the Global Invitation for Bids for establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" 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) Clarification dated 14.05.2026
 - (ii) Additional Clarification dated 26.05.2026
 - (iii) Amendment-I dated 27.05.2026,
2. The offer of M/s Power Grid Corporation of India Limited by way of a Technical Bid pursuant to (1) above submitted on 04.06.2026 in response to the Final RFP.
3. The Initial Price Offer of M/s Power Grid Corporation of India Limited as submitted on 04.06.2026 in response to the Final RFP.
4. The final offer (which is same as Initial Price Offer) of M/s Power Grid Corporation of India Limited, discovered during e-Reverse Auction, conducted on 23.06.2026 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'.

We are pleased to inform you that your proposal and offer received by way of the 'Bid' has been accepted and M/s Power Grid Corporation of India Limited 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 'LoI') is being issued in 2 copies, One original plus One copy.



Page 1 of 4

This LoI 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 LoI.
- (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. 43.50 Crore (Rupees Forty-Three Crore and Fifty Lakhs Only) within 10 (Ten) days from issue of this LoI, 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 LoI 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 Power Grid Corporation of India Limited 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 LoI, and record on one copy of the LoI, '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 LoI.

Yours faithfully,



Ratnesh Kumar

(Ratnesh Kumar)
GM (Engineering)

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, 6th Floor, Tower B, World Trade Centre, Nauroji Nagar, New Delhi-110029
2. **The Joint Secretary (Transmission)**, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi- 110 004
3. **The Director (Transmission)**, Ministry of Power, Govt, of India, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001
4. **The Chairperson**, Central Electricity Authority, Sewa Bhawan, R K Puram, New Delhi-110086
5. **The Chief Operating Officer**, Central Transmission Utility of India Limited, 5th to 10th Floor, Ircon International Tower, Tower No.-1, Plot No. 16, Sector 32, Gurugram, Haryana – 122003
6. **The Chief Engineer (PSP & A - I)**, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi – 110066



2.

ANNEXURE 21 - FORMAT FOR FINANCIAL BID

Quoted Annual Transmission Charges: Rs. 1,193.45 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.



2

UNDERTAKING AND DETAILS OF EQUITY INVESTMENT

Format 1: Bidders' Undertakings

Date: 04.06.2026

To,
 Chief Executive Officer,
 REC Power Development and Consultancy 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 "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)".

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 **25.03.2026** 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.
- 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. [NOT APPLICABLE].



विकास कुमार / VIKAS KUMAR
 मुख्य प्रबंधक (टी.बी.सी.बी.) / Chief Manager (TBCP)
 पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
 Power Grid Corporation of India Ltd.
 (A Govt. of India Enterprise)

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.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220 kV Bhadla-III PS	20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1))	36.4%	These elements of the scheme are required to be commissioned simultaneously as their utilization is dependent on each other.
2.	Implementation of 5 Nos. of 220 kV line bays at 765/400/220 kV Bhadla-III PS.			
3.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Bhadla-III PS.			
4.	Implementation of 2 sets 400 kV sectionlizer bay at 765/400/220 kV Bhadla-III PS			
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS		39.6%	These elements of the scheme are required to be commissioned simultaneously as their utilization is dependent on each other.
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS			
7.	Implementation of 2 Nos. of 220 kV line bays at 765/400/220 kV Ramgarh PS			
8.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Ramgarh PS			



Vikas Kumar
विकास कुमार / VIKAS KUMAR
मुख्य प्रबंधक (टि.बी.सी.बी.) / Chief Manager (TBCB)
पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Ltd.
(भारत सरकार का उद्यम) / (A Govt. of India Enterprise)
Plot No.-2, Sector-29, Gurgaon- 122 001 (Haryana)



9.	Augmentation of 765/400 kV, 1x1500 MVA (3rd) ICT at 765/400 kV Kanpur (PG) substation		24 %	Utilization of this Element is independent
----	---	--	------	--

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: 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III-Part I scheme (Pole 1)).

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.
 - 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 **BHADLA RAMGARH POWER TRANSMISSION LIMITED**, 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.

Vikas Kumar
.....

(Signature)

Name: **VIKAS KUMAR**
Designation: **CHIEF MANAGER**

विकास कुमार / VIKAS KUMAR
मुख्य प्रबंधक (टी.बी.सी.बी.) / Chief Manager (TBCB)
पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
Power Grid Corporation of India Ltd.
(भारत सरकार का उद्यम) / (A Govt. of India Enterprise)
Plot No.-2, Sector-29, Gurgaon- 122 011 (Haryana)



72

सं./ No. 27-44/1/2024-REC DESK
भारत सरकार/Government of India
विद्युत मंत्रालय/Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, dated the 24th July, 2026

To

The CEO, RECPDCL
Plot No. I-4, Sector-29,
Gurugram (Haryana)-122001.

Subject: Seeking approval for sale & transfer of Bhadla Ramgarh Power Transmission Limited and Shongtong Power Transmission Limited to the Successful Bidder(s), selected through Tariff Based Competitive Bidding process.

Sir,

I am directed to refer to RECPDCL's letter SEC No. 1/219/2026/1827 dated 16.07.2026 on the subject mentioned above, and to convey the approval of the Competent Authority for divesting the shareholding of RECPDCL and its nominee in following Special Purpose Vehicles (SPVs), incorporated for carrying out bidding of various inter-State transmission projects under Tariff Based Competitive Bidding (TBCB) mode, to the respective successful bidders, as indicated in below table, with a view to facilitate transfer of the SPV(s) to the successful bidder(s), as required under Ministry of Heavy Industries, Department of Public Enterprises O.M. No. 22(I)12009-GM dated 04.02.2010:

Sl. No.	Name of the Project	Name of SPV	Successful Bidder
1	Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)	Bhadla Ramgarh Power Transmission Limited	M/s Power Grid Corporation of India Limited
2	Transmission system for evacuation of Power from Shongtong Karcham HEP (450 MW) and Tidong HEP (150MW)	Shongtong Power Transmission Limited	M/s Terralight Solar Energy Tinwari Private Limited

Yours faithfully,


(Nidhi Juneja)

Under Secretary to the Govt. of India
email: juneja.n13@nic.in /
sopfcrc-mop@gov.in
Tel: 011-23711302

Copy for Information and necessary action to:

- CMD, REC Ltd.
- 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.
- Sr. PPS to Secretary (Power)/JS (Distt. &Reforms)/Dir (Distt.), Ministry of Power

संदर्भ संख्या: आरईसीपीडीसीएल/टीबीसीबी/Bhadla Ramgarh/2026-27/2073

दिनांक: 29.07.2026

M/s Power Grid Corporation of India Limited

'Saudamini', Plot no. 2, Sector – 29,
Gurugram – 122001 (Haryana)

Kind Attention: Sh. Pankaj Pandey, Executive Director

विषय: Establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)"
through tariff based competitive bidding process – **Extension of Lol-** regarding.

संदर्भ: Letter of Intent (LOI) No. RECPDCL/TBCB/Bhadla Ramgarh/2026-27/1711, dated
08.07.2026

महोदय,

This is in reference to above referred Letter of Intent dated 08th July, 2026 issued to M/s
Power Grid Corporation of India Limited for "Augmentation at Bhadla-III, Ramgarh PS and
Kanpur (PG)".

In this regard, in accordance with clause 2.15.2 of RFP, the validity of Lol is extended till
29.07.2026 (i.e., date of SPV transfer).

Further, as per clause 2.15.4 of RFP, the TSP shall apply to the Commission for grant of
Transmission License and make an application to the Commission for adoption of
Transmission Charges, as required under Section – 63 of the Electricity Act 2003, within 5
working days from the date of acquisition of SPV i.e. by 05.08.2026.

धन्यवाद।

भवदीय,

 29.07.26
रत्नेश कुमार

महाप्रबंधक (इंजीनियरिंग)

SHARE PURCHASE AGREEMENT

BETWEEN

REC POWER DEVELOPMENT AND CONSULTANCY LIMITED

AND

BHADLA RAMGARH POWER TRANSMISSION LIMITED

AND

POWER GRID CORPORATION OF INDIA LIMITED

Dated: 29th JULY, 2026



सत्यमेव जयते

INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

₹500

e-Stamp

Certificate No. : IN-DL62638569125322Y
Certificate Issued Date : 27-Jul-2026 04:03 PM
Account Reference : SELFPRINT (PU)/ dl-self/ NEHRU/ DL-DLH
Unique Doc. Reference : SUBIN-DL DL-Self31077472269648Y
Purchased by : REC POWER DEVELOPMENT AND CONSULTANCY
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 : BHADLA RAMGARH POWER TRANSMISSION LIMITED
Second Party : POWER GRID CORPORATION OF INDIA LIMITED
Stamp Duty Paid By : BHADLA RAMGARH POWER TRANSMISSION LIMITED
Stamp Duty Amount(Rs.) : 500
 (Five Hundred only)



SELF PRINTED CERTIFICATE TO BE
VERIFIED BY THE RECIPIENT AT
WWW.SHCIESTAMP.COM

IN-DL62638569125322Y

Please write or type below this line

SHARE PURCHASE AGREEMENT

This **SHARE PURCHASE AGREEMENT** ('Agreement') made on the 29th day of July, 2026 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**

RECPDCL

Statutory Alert:

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- The onus of checking the legitimacy is on the users of the certificate.
- In case of any discrepancy please inform the Competent Authority.

BRPTL

New Delhi
110003



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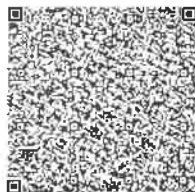
INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

₹500

e-Stamp

Certificate No. : IN-DL62674265745648Y
Certificate Issued Date : 27-Jul-2026 04:27 PM
Account Reference : SELFPRINT (PU)/ dl-self/ NEHRU/ DL-DLH
Unique Doc. Reference : SUBIN-DLDEL-SELF31142794277407Y
Purchased by : REC POWER DEVELOPMENT AND CONSULTANCY
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 : BHADLA RAMGARH POWER TRANSMISSION LIMITED
Second Party : POWER GRID CORPORATION OF INDIA LIMITED
Stamp Duty Paid By : BHADLA RAMGARH POWER TRANSMISSION LIMITED
Stamp Duty Amount(Rs.) : 500
 (Five Hundred only)



SELF PRINTED CERTIFICATE TO BE
VERIFIED BY THE RECIPIENT AT
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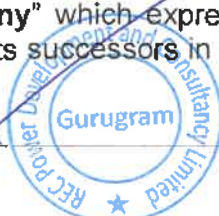
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AND

BHADLA RAMGARH POWER TRANSMISSION LIMITED a company incorporated under the Companies Act, 2013 vide CIN-U42202DL2026GOI466318, 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**

RECPDCL



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सत्यमेव जयते

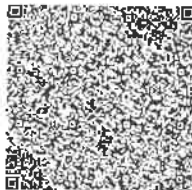
INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

₹200

e-Stamp

Certificate No.	: IN-DL62629562939349Y
Certificate Issued Date	: 27-Jul-2026 03:57 PM
Account Reference	: SELFPRINT (PU)/ dl-self/ NEHRU/ DL-DLH
Unique Doc. Reference	: SUBIN-DLDEL-SELF31061669178825Y
Purchased by	: REC POWER DEVELOPMENT AND CONSULTANCY
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	: BHADLA RAMGARH POWER TRANSMISSION LIMITED
Second Party	: POWER GRID CORPORATION OF INDIA LIMITED
Stamp Duty Paid By	: BHADLA RAMGARH POWER TRANSMISSION LIMITED
Stamp Duty Amount(Rs.)	: 200 (Two Hundred only)



SELF PRINTED CERTIFICATE TO BE
VERIFIED BY THE RECIPIENT AT
WWW.SHCIESTAMP.COM

IN-DL62629562939349Y

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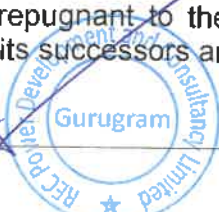
AND

POWER GRID CORPORATION OF INDIA LIMITED, a company incorporated under the Companies Act, 1956 vide CIN-L40101DL1989GOI038121 and having its registered office at **B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi-110016** (hereinafter 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**.

RECPDCL

Statutory Alert:

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- The onus of checking the legitimacy is on the users of the certificate.
- In case of any discrepancy please inform the Competent Authority.



WHEREAS:

- A. Ministry of Power, Government of India vide its Gazette Notification no. CG-DL-E19022026-270309 dated 12.02.2026 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 "**Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)**" 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, Power Grid Corporation of India Limited has been identified as the Selected Bidder vide Letter of Intent dated 08th July, 2026 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

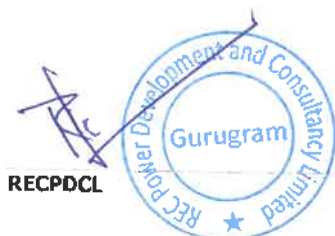
- 1.1 Capitalised terms in this Agreement, unless defined in this Agreement shall, in so far as the context admits, have the same meaning in this Agreement as has been ascribed to them in the TSA.
- 1.2 Additionally, the following terms shall have the meaning hereinafter respectively assigned to them herein below:
- (i) **“Acquisition Price”** shall mean INR 12,85,79,427/- (Rupees Twelve Crore Eighty-Five Lakh Seventy-Nine Thousand Four Hundred Twenty-Seven 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 29th July, 2026 between Central Transmission Utility of India Limited (CTUIL) and Bhadla Ramgarh 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.



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.
- 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.

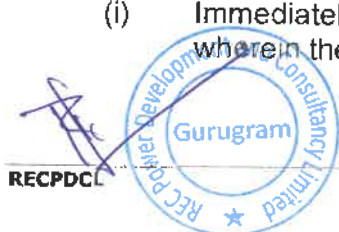
3. CLOSING

- 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. The new registered office address of the Company shall be within the jurisdiction of the RoC of New Delhi or within the jurisdiction of any other RoC, as required by selected bidder, by following the due process as may be required, 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 **Power Grid Corporation of India Limited** and its nominees and transfer of all assets and liabilities of the Company as on Closing Date;
- (b) approving the **Power Grid Corporation of India Limited** and its nominees as the members of the Company and entering the name of the **Power Grid Corporation of India Limited** 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 Directors of the Selected Bidder on the Board of the Company.

Immediately pursuant to the resignation of the existing Directors, the newly constituted Board of Directors shall continue/hold the meeting and pass the following resolution:

- (e) 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.
 - (f) 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
 - (g) 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 **Power Grid Corporation of India Limited** 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 **Power Grid Corporation of India Limited** 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 **Power Grid Corporation of India Limited** and its nominees, to the **Power Grid Corporation of India Limited** 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) (c) to (i) (d) of Clause 3.3 (i) to the Selected Bidder.
- 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.

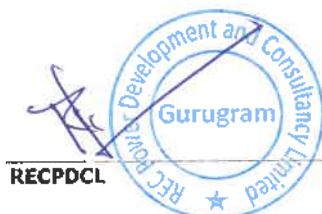
Notwithstanding the provisions of **Clause 3.3** hereto, all proceedings to be taken and all documents to be executed and delivered by the Parties at the Closing Date shall be deemed to have been taken and executed simultaneously and no proceedings shall be deemed to have been taken nor documents executed 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 (i) 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: **Power Grid Corporation of India Limited,**
B-9, Qutab Institutional Area, Katwaria Sarai,
New Delhi-110016

REC PDCL: **REC Power Development and Consultancy Limited**
Core-4, SCOPE Complex, 7, Lodhi Road, New
Delhi-110003

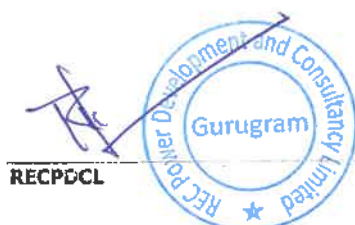
Company: **Bhadla Ramgarh Power Transmission Limited**
Core-4, SCOPE Complex, 7, Lodhi Road, New
Delhi-110003



- 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 Sh. Arup Samanta, General Manager, Company Secretariat, POWERGRID, pursuant to an authorization granted to Sh. Arup Samanta, General Manager, Company Secretariat, POWERGRID through necessary Board resolutions. Further, Sh. Arup Samanta, General Manager, Company Secretariat, POWERGRID 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 Sh. Arup Samanta, General Manager, Company Secretariat, POWERGRID 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.



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- 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.

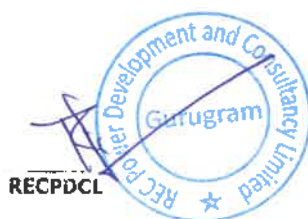
6.17 SURVIVAL

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. Rajkumar Sonkar, HoD (CS)

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on 10th July, 2026)

IN THE PRESENCE OF:

WITNESS:
(Name and address)

1. **MRIDUSMITA BHATTACHARYA**
OFFICER (ENGG.), RECPDCL

Mridumita Bhattacharya
(Core-4, SCOPE Complex, 7,
Lodhi Road, New Delhi-110003)

2. **RITAM BISWAS**
DM (ENGG.), RECPDCL

Ritam Biswas
(Core-4, SCOPE Complex, 7,
Lodhi Road, New Delhi-110003)

SIGNED AND DELIVERED by the within named **BHADLA RAMGARH POWER TRANSMISSION LIMITED** by the hand of Sh. Sumit Mehra, Director

(Authorised pursuant to the resolution passed by its Board of Directors in its meeting held on 29th July, 2026)

WITNESS:
(Name and address)

RITU MADAN ARORA
CM (CS), REC LIMITED

Sumit Mehra
(Core-4, SCOPE Complex, 7,
Lodhi Road, New Delhi-110003)

Nirbhay Goel, DM (CS)
REC limited.

Nirbhay Goel
(Core-4, SCOPE Complex, 7,
Lodhi Road, New Delhi-110003)

SIGNED AND DELIVERED by the within
named **POWER GRID CORPORATION
OF INDIA LIMITED** by the hand of
Sh. Arup Samanta, General Manager,
Company Secretariat, POWERGRID

Arup Samanta

(Authorised pursuant to the resolution
passed by Management Committee of its
Board of Directors in its meeting held on
29th April, 2026)



WITNESS:
(Name and address)

A. Aditya Mahesh
Ch. Mgr. (TBCB)
Power Grid Corporation of India
Ltd.

Aditya

B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi-110016

Rohit Jain
Ch. Mgr (TBCB)
Power Grid Corporation of India
Ltd.

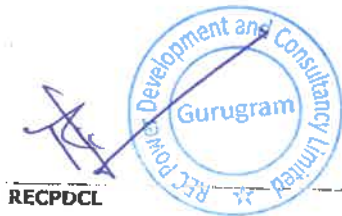
Rohit Jain

B-9, Qutab Institutional Area,
Katwaria Sarai, New Delhi-110016

ANNEXURE A**DESCRIPTION OF THE SALE SHARES**

S. NO.	NAME OF THE SHAREHOLDER(s)	NUMBER OF EQUITY SHARES HELD	PERCENTAGE OF THE TOTAL PAID UP EQUITY CAPITAL
1.	REC Power Development and Consultancy Limited	49,994	99.988
2.	Shri Jaspal Singh Kushwaha*	1	0.002
3.	Shri Mukul Agarwal*	1	0.002
4.	Shri Ratnesh Kumar*	1	0.002
5.	Smt. Navita Dubal*	1	0.002
6.	Shri Arvind Kumar*	1	0.002
7.	Shri Anil Kumar Perala*	1	0.002
	Total	50,000	100.000

* Held as nominee of REC PDCL.



RECPDCL



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TRANSMISSION SERVICE AGREEMENT

FOR

**DEVELOPMENT AND OPERATION OF INTER-
STATE TRANSMISSION SYSTEM**

**FOR TRANSMISSION OF ELECTRICITY
THROUGH TARIFF BASED COMPETITIVE
BIDDING FOR**

**AUGMENTATION AT BHADLA-III, RAMGARH PS
AND KANPUR (PG)**

BETWEEN THE

**CENTRAL TRANSMISSION UTILITY OF INDIA
LIMITED
(NODAL AGENCY)**

AND

**BHADLA RAMGARH POWER TRANSMISSION
LIMITED**

29th JULY 2026



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Certificate No. G0A2026G1617

GRN No. 154527219

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 29th [Insert day] of JULY [Insert month] of Two Thousand and Twenty Six.

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, Gurugram, Haryana 122001, India & Correspondence address at Floor No. 5-10, Tower 1, Plot No. 16, IRCON International Tower, Institutional Area, Sector 32, Gurugram, 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

BHADLA RAMGARH 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;

("Nodal Agency" and "TSP" are individually referred to as "Party" and collectively as the "Parties")



Central Transmission Utility of India Limited 3 Bhadla Ramgarh Power Transmission Limited

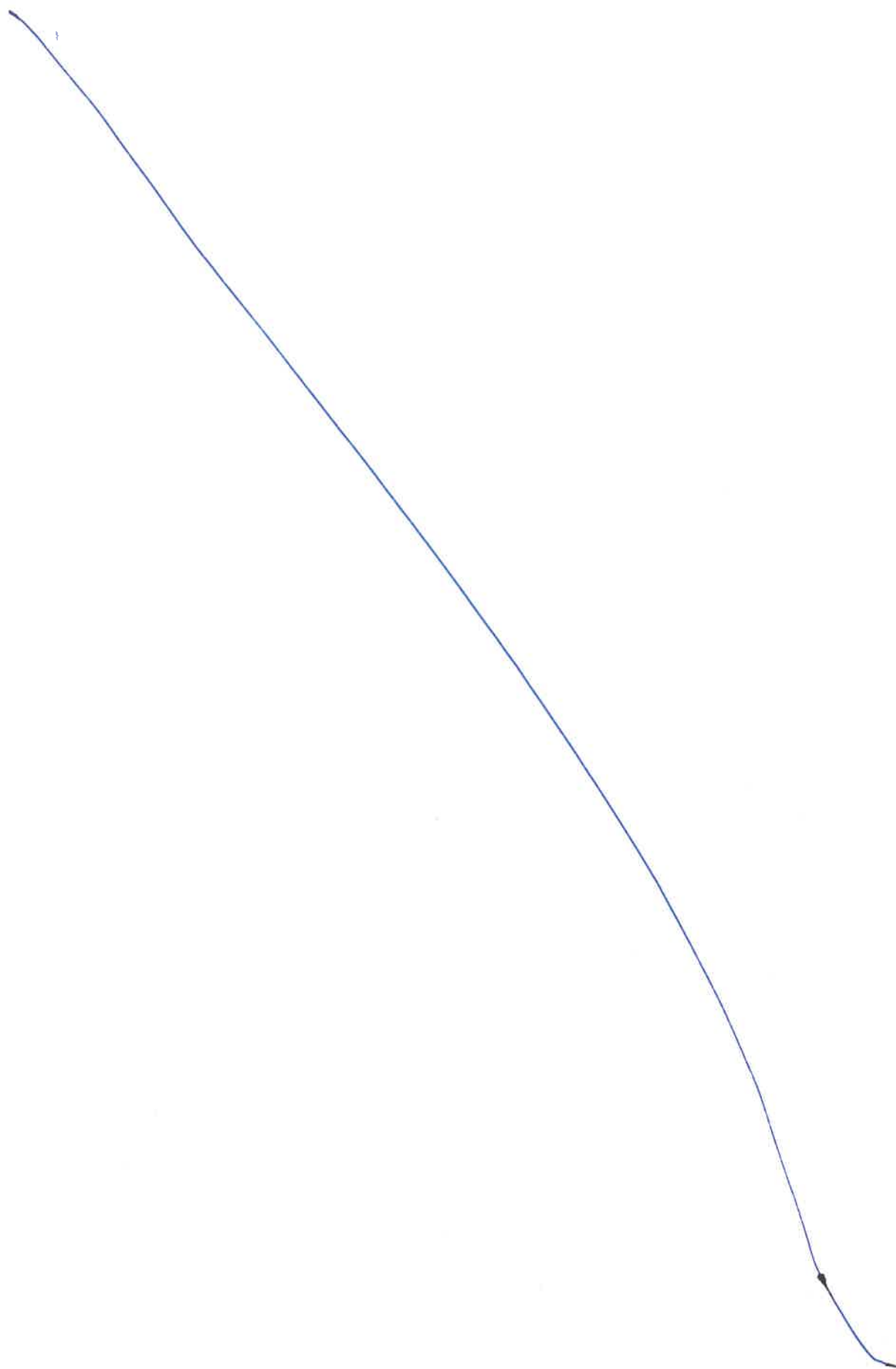


AND WHEREAS:

- 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 Bhadla Ramgarh 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 –IV to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, 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;



Central Transmission Utility of India Limited

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Bhadla Ramgarh Power Transmission Limited



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"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, or insurance surety bond or Payment on Order Instrument 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 (for bank guarantee) or Schedule-8A (for insurance surety bond issued by any of the insurance companies authorized by Insurance Regulatory and Development Authority of India), or Schedule-8B (for Payment on Order Instrument issued by PFC/REC/IREDA) in accordance with Article 3 of this Agreement and which shall include the additional bank guarantee or insurance surety bond or Payment on Order Instrument 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



Central Transmission Utility of India Limited

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Bhadla Ramgarh Power Transmission Limited



shall include, without limitation, all other transmission lines, gantries, sub-stations and associated equipment 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;



Central Transmission Utility of India Limited

10 Bhadla Ramgarh Power Transmission Limited



"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;

"Payment on Order Instrument" shall mean Letter of Undertaking from Indian Renewable Energy Development Agency Limited (IREDA) or Power Finance Corporation Limited (PFC) or REC Limited (REC) [the three non-banking financial institutions under Ministry of New & Renewable Energy (MNRE)/ Ministry of Power (MoP)], to pay in case situation of default of Transmission Service Provider (TSP) in terms of tender conditions/Power Purchase Agreement (PPA) arises. Such Letter(s) will have same effect as that of a Bank Guarantee issued by any public sector bank. Such "Payment on Order instrument" would have terms and conditions similar to that of any Bank Guarantee given by any public sector bank and would promise to pay the Nodal Agency on demand within stipulated time. TSPs can seek such Letters(s) by offering due security to the above mentioned three non-banking financial institutions mentioned above (IREDA, PFC & REC). Nodal Agency shall not accept the instrument of 'Letter of Undertaking' as described above or



in any other form, from any other non-banking financial institutions or bank, except IREDA, PFC & REC.

“Preliminary Termination Notice” shall mean a Nodal Agency's Preliminary Termination Notice as defined in Article 13 of this Agreement;

“Project” shall mean Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG), 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;



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(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 25.03.2026 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;



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"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, Bhadla Ramgarh Power Transmission Limited, and the Successful Bidder for the purchase of one hundred (100%) per cent of the shareholding of the Bhadla Ramgarh 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 Bhadla Ramgarh 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.



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- 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 Bhadla Ramgarh 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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Signature

- 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 Bhadla Ramgarh Power Transmission Limited, from REC Power Development and Consultancy Limited, who shall sell to the Selected Bidder, the equity shareholding of Bhadla Ramgarh 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. 43.50 Crore (Rupees Forty Three Crore and Fifty Lakhs 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.



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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 Four Crore and Thirty Five Lakh Only (Rs. 4.35 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. 43.50 Crore (Rupees Forty Three Crore and Fifty Lakhs Only)** as liquidated damages. The Nodal Agency shall be entitled to recover this amount of damages by invoking the Contract



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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 Article 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. A-1/2021- FSC- Part(5) dated 16.11.2021 and No.: P45021/2/2017-PP (BE-II)-Part-4 Vol.II dated 19.07.2024 issued by Ministry of Power 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



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No. 6/18/2019-PPD, dated 24.07.2020, Office Memorandum (OM) No. F.18/37/2020-PPD dated 08.02.2021, OM No. F.12/1/2021- PPD (Pt.) dated 02.03.2021, OM No. F.7/10/2021-PPD dated 08.06.2021 and Order (Public Procurement No 4) bearing File No. F.7/10/2021- PPD dated 23.02.2023 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;



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- 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.
- 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) deleted.
- (b) deleted;
- (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.



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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).




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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.




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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 Articles 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.



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- 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.



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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



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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. 43.50 Crore (Rupees Forty Three Crore and Fifty Lakhs 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 –IV to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, 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




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- 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:



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- (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.



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- 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 –IV to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 as on Bid Deadline. For the event(s) for which the Element(s) is/are deemed to be available as per Appendix –IV to Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024, 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.




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- (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.



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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.



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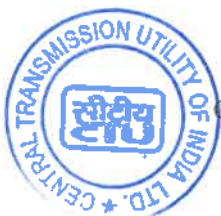


12.3 Notification of Change in Law:

- 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.



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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 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. deleted.

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




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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.



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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.



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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



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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



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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 Two Crore and Ninety Lakhs only (Rs. 2.90 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.

- 14.4.2 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.

14.4.3 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.

14.4.4 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.




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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



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- 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.



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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.

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;




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- d. The TSP is not insolvent and no insolvency proceedings have been instituted, nor threatened or pending by or against the TSP;
- 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




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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.



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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 Bhadla Ramgarh 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 Bhadla Ramgarh 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 Bhadla Ramgarh 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 Bhadla Ramgarh Power Transmission Limited shall be computed in accordance with the example given below:



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If the Parent Company or the Ultimate Parent Company of the Selected Bidder A directly holds thirty percent (30%) of the equity in Bhadla Ramgarh Power Transmission Limited then holding of Selected Bidder A in Bhadla Ramgarh 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 Bhadla Ramgarh 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 Bhadla Ramgarh 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



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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.




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- 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 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



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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



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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 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



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- 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:

(i) M/S Power Grid Corporation of India Limited (Selected Bidder)

	<u>CORPORATE</u>	<u>BUSINESS</u>
Address	: Plot No 2, Saudamini, Sec-29, Gurugram, Haryana	: NWR RHA, 3 rd , 4 th Floor, REIL House, Shipra Path, Mansarovar
Attention	: 122001 ED (TBCB)	: Jaipur, RJ - 302020 Sh. Surya Prakash (PIC)
Email	: tbc@powergrid.in	: surya-prakash@powergrid.in
Fax. No.	: —	: —
Telephone No.	: 0124-2822123	: 9415311735

- 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 (Nodal Agency)

Address : 5th to 10th Floor, IRCON International Tower,
Tower no-1, Plot no-16, Sector-32, Gurugram,
Haryana: 122003

Attention : Ramachandra, Sr GM

Email : ramachand@powergrid.in

Fax. No. :

Telephone No. : 9910378128

- 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



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Transmission Service Agreement

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 Lol) 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 Lol 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 Lol 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 Lol 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;



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(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 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

[Signature]
.....
SURYA PRAKASH, PIC, POWERGRID, JAISALMER

[Signature, Name, Designation and Address]

2. For and on behalf of Central Transmission Utility of India Limited (Nodal Agency)

[Signature]
.....

[Signature, Name, Designation and Address]

KAMAL KUMAR JAIN
Senior General Manager
सेनियर जनरल मैनेजर
सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड की पूर्ण स्वामित्व कंपनी)
(A wholly owned subsidiary of POWERGRID)
9th-10th Floor, Icon International Tower-1, Plot No.-16, Sector-32, Gurugram-122003

WITNESSES:

1. For and on behalf of

: BPC

[Signature]
.....

[Signature]

(RITAM BISWAS)
DM (ENRG.), REC PDL

.....
[Insert, Name, Designation and Address of the Witness]

2. For and on behalf of

: Nodal Agency

[Signature]
.....

[Signature]

.....
[Insert Name, Designation and Address of the Witness]

DEEPAK KRISHNAN
सेनियर डिप्टी मैनेजर
सेंट्रल ट्रांसमिशन यूटिलिटी ऑफ इंडिया लिमिटेड
CENTRAL TRANSMISSION UTILITY OF INDIA LIMITED
(पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड की पूर्ण स्वामित्व कंपनी)
(A wholly owned subsidiary of POWERGRID)
5th-10th Floor, Icon International Tower-1, Plot No.-16, Sector-32, Gurugram-122003



SCHEDULES




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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.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220 kV Bhadla-III PS • 500 MVA, 400/220 kV ICT - 5 Nos. (4 Nos. ICTs in 220 kV Sec-2 (6th to 9th) and 1 No. ICT in 220 kV Sec-1 (10th)) • 400 kV ICT bay – 5 Nos. • 220 kV ICT bay – 4 Nos. • 220 kV ICT (GIS) bay – 1 No. (for 10th ICT) • 220 kV GIS bus duct/Cable for interconnection of 220 kV side of ICT (10th) to 220 kV GIS bay (Section-1)	20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1))
2.	Implementation of 5 Nos. of 220 kV line bays at 765/400/220 kV Bhadla-III PS. • 220 kV line bay – 5 Nos.	
3.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Bhadla-III PS. • 400 kV line bay – 1 No.	
4.	Implementation of 2 sets 400 kV sectionlizer bay at 765/400/220 kV Bhadla-III PS • 400 kV sectionalizer bay – 2 sets	
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS • 1500 MVA, 765/400 kV ICT - 2 Nos. • 765 kV ICT bay – 2 Nos. • 400 kV ICT bay – 2 Nos.	
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS • 500 MVA, 400/220 kV ICT - 2 Nos. • 400 kV ICT bays – 2 Nos. • 220 kV ICT bay – 2 Nos.	
7.	Implementation of 2 Nos. of 220 kV line bays at 765/400/220 kV Ramgarh PS	



	• 220 kV line bay – 2 Nos.	
8.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Ramgarh PS • 400 kV line bay – 1 No.	
9.	Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400 kV Kanpur (PG) substation • 1500 MVA (3x500 MVA), 765/400 kV ICT - 1 No. • 765 kV ICT bay (GIS) including completion of diameter. • 400 kV ICT bay (GIS) in existing spare bay • All associated GIS duct with terminations.	

Project Description

Transmission System requirement for additional 20 GW REZ in Northern Region (Phase-III) was approved in 5th NCT meeting held on 25.08.21 & 02.09.21. As part of above scheme, establishment of 765/400/220 kV Bhadla- III PS, 765/400/220 kV Ramgarh PS along with associated EHVAC system was approved in Phase-III Part B1 package & Part C1 package of scheme respectively

Further in 5th NCT meeting, it was decided that augmentation of 1x1500 MVA ICT at 765/400 kV Kanpur (GIS) substation as part of Phase-III, Part J scheme is linked with HVDC system (LILO of Varanasi-Kanpur at Fatehpur) and since the timeframe of HVDC has now been delayed, therefore, this item could also be taken up later.

Subsequently, Augmentation of 400/220 kV 2x500 MVA (4th & 5th) ICTs, Augmentation of 765/400 kV 2x1500 MVA (3rd & 4th) ICTs along with 220 kV BC & TBC bay at Bhadla-III PS was approved as part of Transmission system of "Additional Transmission system for evacuation of power from Bhadla-III PS as part of Rajasthan REZ Phase-III scheme (20 GW)". The scheme is also under implementation.

As Connectivity application has already been granted at Ramgarh and Bhadla-III PS. with fulfilment of connectivity grant process, additional no. of ICTs along with line bays (400 kV and 220 kV) are required for RE interconnection in matching timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III scheme (Bhadla-Fatehpur HVDC scheme (Pole 1).

The scheme comprises augmentation of 400/220 kV, 5x500 MVA (6th-10th) ICTs, Implementation of 5 Nos. of 220 kV line bays & 1 No. of 400 kV line bay at 765/400/220 kV Bhadla-III PS as well as augmentation with 765/400 kV, 2x1500 MVA (3rd & 4th) ICTs, 400/220 kV, 2x500 MVA (3rd & 4th) ICTs, Implementation of 2 Nos. of 220 kV line bays & 1 No. of 400 kV line bay at 765/400/220 kV Ramgarh PS. The scope also covers augmentation with 765/400 kV, 1x1500 MVA (3rd) ICT at 765/400 kV Kanpur (PG) substation.

Augmentation at Kanpur (GIS) S/s as part of Transmission system for evacuation of power from REZ in Rajasthan (20 GW) under Phase III was agreed in the 3rd NRPC-TP meeting held on 19.02.21, 49th NRPC meeting held on 27.09.21 & 5th National Committee on Transmission (NCT) held on 25.08.21 and 02.09.21. Further, augmentation at Bhadla-III PS & Ramgarh PS is agreed in 41st CMETS-NR meeting held on 10.10.25. The composite



scheme was approved in 37th NCT held on 19.01.2026. Subsequently, Ministry of Power, Government of India, vide its Gazette Notification no. CG-DL-E-19022026-270309 dated 12.02.2026 declared establishment of "Augmentation at Bhadla-III, Ramgarh PS and Kanpur (PG)" through tariff based competitive bidding process route.



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SPECIFIC TECHNICAL REQUIREMENTS FOR SUBSTATION

Extension of 765/400/220 kV Bhadla-III PS shall be conventional Air Insulated Substation (AIS) type (Bay of 10th ICT on 220 kV side shall be GIS) 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.

Extension of 765/400/220 kV Ramgarh PS shall be conventional Air Insulated Substation (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.

Extension of 765/400 kV Kanpur (PG) S/s shall be Gas Insulated Substation (GIS) 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/guidelines as amended up to date 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

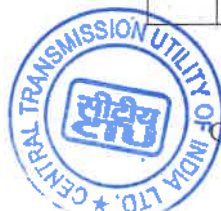
The system design parameters for substations/switchyards shall be as given below:

Sl. No	Description of parameters	Extn. of 765/400/220 kV Ramgarh PS		
		765 kV System	400 kV System	220 kV System
1.	System Operating Voltage	765 kV	400 kV	220 kV
2.	Maximum voltage of the system (rms)	800 kV	420 kV	245 kV
3.	Rated Frequency	50 Hz	50 Hz	50 Hz
4.	No. of Phases	3	3	3
5.	Rated Insulation Levels			
i)	Lightening Impulse withstand voltage for (1.2/50 micro sec.)			
	- for Equipment other than Transformer and Reactor	2100 kVp	1425 kVp	1050 kVp
	- for Insulator String	2100 kVp	1550 kVp	1050 kVp
ii)	Switching Impulse withstand voltage (250/2500 micro sec.) dry and wet	1550 kVp	1050 kVp	



Sl. No	Description of parameters	Extn. of 765/400/220 kV Ramgarh PS		
		765 kV System	400 kV System	220 kV System
iii)	One minute power frequency dry withstand voltage (rms)	830 kV	630 kV	-
iv)	One minute power frequency dry and wet withstand voltage (rms)		-	460 kV
6.	Corona Extinction Voltage	508 kV	320 kV	-
7.	Max. radio interference voltage for frequency between 0.5 MHz and 2 MHz	2500 micro-volts at 508 kV rms	1000 micro-volts at 266 kVrms	1000 micro-volts at 156 kVrms
8.	Minimum creepage distance for insulator string/ long rod insulators/ outdoor bushings	24800 mm (31mm/kV)	13020 mm (31 mm/kV)	7595 mm (31 mm/kV)
9.	Minimum creepage distance for switchyard equipment	20000 mm (25 mm/kV)	10500 mm (25 mm/kV)	6125 mm (25 mm/kV)
10.	Max. fault current	50 kA	63 kA	50 kA
11.	Duration of Fault	1 sec	1 sec	1 sec

Sl. No	Description of parameters	Extn. of 765/400/220 kV Bhadla-III PS		Extn. of 765/400 kV Kanpur (PG) S/s	
		400 kV System	220 kV System	765 kV System	400 kV System
1.	System Operating Voltage	400 kV	220 kV	765 kV	400 kV
2.	Maximum voltage of the system (rms)	420 kV	245 kV	800 kV	420 kV
3.	Rated Frequency	50 Hz	50 Hz	50 Hz	50 Hz
4.	No. of Phases	3	3	3	3
5.	Rated Insulation Levels				
i)	Lightening Impulse withstand voltage $\tau(1.2/50$ micro sec.)				
	- for Equipment other than Transformer and Reactor	1425 kVp	1050 kVp	2100 kVp	1425kVp
	- for Insulator String	1550 kVp	1050 kVp	2100 kVp	1550 kVp
ii)	Switching Impulse withstand voltage (250/2500 micro sec.) dry and wet	1050 kVp	-	1550 kVp/ 1425 kVp for GIS	1050 kVp
iii)	One minute power frequency dry withstand voltage (rms)	630 kV	-	830 kV (AIS)/ 960 kV (GIS)	630 kV (AIS)/ 650 kV (GIS)



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Sl. No	Description of parameters	Extn. of 765/400/220 kV Bhadla-III PS		Extn. of 765/400 kV Kanpur (PG) S/s	
		400 kV System	220 kV System	765 kV System	400 kV System
iv)	One minute power frequency dry and wet withstand voltage (rms)	-	460 kV		-
6.	Corona Extinction Voltage	320 kV	-	508 kV	320 kV
7.	Max. radio interference voltage for frequency between 0.5 MHz and 2 MHz	1000 micro-volts at 266kV rms	1000 micro-volts at 156 kV rms	2500 micro-volts at 508 kV rms	1000 micro-volts at 266 kV rms
8.	Minimum creepage distance for insulator string/ longrod insulators/ outdoor bushings	13020 mm (31 mm/kV)	7595 mm (31 mm/kV)	24800 mm (31 mm/kV)	13020 mm (31 mm/kV)
9.	Minimum creepage distance for switchyard equipment	10500 mm (25 mm/kV)	6125 mm (25 mm/kV)	20000 mm (25 mm/kV)	10500 mm (25 mm/kV)
10.	Max. Fault Current	63 kA	50 kA	50 kA	63 kA
11.	Duration of Fault	1 sec	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	765 kV side	400 kV side	220 kV side
Extn. of 765/400/220 kV Bhadla-III PS	One and Half breaker	One and Half breaker	Double Main and Transfer (AIS)/ Double Main (GIS extn.)
Extn. of 765/400/220 kV Ramgarh PS	One and Half breaker	One and Half breaker	Double Main and Transfer
Extn. of 765/400 kV Kanpur (PG) S/s	One and Half breaker	One and Half breaker	-NA-

Notes: -

- 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 2(two) numbers of



feeders.

- iii) In case of GIS substation where the bus scheme is One & Half breaker scheme, the diameters shall be complete with feeder/line side isolator to be used for any future line bay and GIS duct of the future bay shall be brought outside the GIS hall/building with extension/interface module suitably.
- iv) 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.

v) **Extension of Bhadla-III PS:**

- (a) 5 Nos. of 220 kV line bays (Bay No. – 218, 220, 226, 227 & 231) shall be constructed under present scope at Bhadla-III PS at 220 kV level.
- (b) 1 No. of 400 kV line bay shall be terminated in the new diameter at Bhadla-III PS. Accordingly, one no. Main Bay and associated Tie Bay (430- Main Bay & 431- Tie Bay) shall be constructed under present scope at Bhadla-III PS.
- (c) TSP shall also construct 02 sets of bus sectionalizer at 400 kV level (set-1: Bay No. 419 & 420, set-2: Bay No. 442 & 443)

400/220 kV for ICT Termination:

- (d) Four Nos. (out of 5 Nos.) 500 MVA ICTs shall be terminated at the 220 kV bus Section-2 in AIS arrangement. In addition, one number of 500 MVA ICTs shall be connected at the 220 kV bus Section-1 through GIS/cable arrangement along with associated indoor/outdoor GIS bay under the present scope of work.
- (e) Single Line Diagram (Drg. No. C/ENGG/SS/BHADLA-3/SLD, Rev. No.-00) of Bhadla-III substation attached with the RfP shall be referred in this regard.
- (f) Further, all associated interconnection work shall also be in the present scope of TSP.

vi) **Extension of Ramgarh PS:**

- (a) For Augmentation of 765/400 kV, 2x1500 MVA (3rd & 4th) ICTs, both ICT shall be installed in two number new diameters at Ramgarh PS. Accordingly, 2 Nos. Main Bay and associated Tie Bay (712- Main Bay & 711- Tie Bay and 715- Main Bay & 714- Tie Bay) shall be constructed under present scope at Ramgarh PS at 765 kV level and 02 Nos. Main Bay and associated Tie Bay (421- Main Bay & 422- Tie Bay and 424- Main Bay & 425- Tie Bay) shall be constructed under present scope at Ramgarh PS at 400 kV level.
- (b) For Augmentation of 400/220 kV, 2x500 MVA (3rd & 4th) ICTs, 2 numbers Main Bays (Main Bay 423 & Main Bay 426) shall be constructed under present scope at Ramgarh PS at 400 kV level.



- (c) 2 numbers of 220 kV line bays (Bay No. – 207 & 208) shall be constructed under present scope at Ramgarh PS.
- (d) 1 number of 400 kV line bay (Main Bay No. – 406) shall be constructed in the existing diameter at Ramgarh PS.
- (e) Single Line Diagram (Drg. No. C/ENGG/SS/RAMGARH PS/SLD) of Ramgarh PS substation attached with the RfP shall be referred in this regard.
- (f) Further, all associated interconnection work shall also be in the present scope of TSP.

vii) **Extension of Kanpur (PG) S/s:**

- (a) For Augmentation of 765/400 kV, 1x1500 MVA (3rd) ICT shall be terminated in new diameter at 765 kV voltage level and in the existing bay at 400 kV voltage level. Accordingly, 2 numbers main bays (1 for ICT termination & 1 for diameter completion) and associated Tie bay shall be constructed at 765 kV level under present scope at Kanpur (PG) S/s.
- (b) Single Line Diagram (Drg. No.- PG/PGCIL/KNP/Sld-drg/001, Rev. No.-R4) of Kanpur substation attached with the RfP shall be referred in this regard.
- (c) Further, all associated interconnection work including surge arrester for 400kV side of ICT shall also be in the present scope of TSP.

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	Extn. of 765/400/220 kV Ramgarh PS		
		765 kV	400 kV	220 kV
1.	Bus Bar	As per existing	As per existing	As per existing
2.	Line bay	--	3150 A	1600 A
3.	ICT bay	3150 A	3150 A	1600 A



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Sl. No	Description of bay	Extn. of 765/400/220 kV Bhadla-III PS		Extn. of 765/400 kV Kanpur (PG) S/s	
		400 kV	220 kV	765 kV	400 kV
1.	Bus Bar	As per existing	As per existing	As per existing	As per existing
2.	Line bay	3150 A	1600 A	--	--
3.	ICT bay	3150 A	1600 A	3150 A	As per existing
4.	Bus Sectionalizer Bay	4000 A	--	--	--

B.2.1 (765/√3)/ (400/√3)/ 33 kV, Single Phase Autotransformer

500 MVA, (765/√3)/ (400/√3)/ 33 kV, 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 Voltage Class)" as amended up to date available on CEA's website.

Connection arrangement for utilization of existing Spare Single Phase Transformer unit: TSP shall make the arrangement of present Transformer bank in such a way that the existing spare unit can be utilized for Transformer bank under present scope without its physical movement.

B.2.2 400/220 kV, 3-phase Autotransformer

500 MVA, 400/220 kV, 3-phase Autotransformer shall conform to CEA's "Standard Specifications and Technical Parameters for Transformers and Reactors (66 kV and above Voltage Class)" as amended up to date available on CEA's website.

B.2.3 765 kV & 220 kV GIS equipment (as applicable)

GIS (Gas Insulated Substation) shall be Indoor type in accordance to IEC: 62271-203. The switchgear shall be designed and specified to withstand operating conditions and duty requirements. All the switchgear such as Circuit Breaker, isolator, earth switch including CT, PT etc. shall be GIS type. The Surge Arrestor and Voltage Transformer shall be either GIS or outdoor AIS type.

The GIS assembly shall consist of separate modular compartments e.g. Circuit Breaker compartment, Bus bar compartment filled with SF6 Gas and separated by gas tight partitions so as to minimize risk to human life, allow ease of maintenance and limit the effects of gas leaks failures & internal arcs etc. These compartments shall be designed to minimize the risk of damage to adjacent sections and protection of personnel in the event of a failure occurring within the compartments. Rupture diaphragms with suitable deflectors shall be provided to prevent uncontrolled



bursting pressures developing within the enclosures under worst operating conditions, thus providing controlled pressure relief in the affected compartment. The arrangement of gas sections or compartments shall be such as to facilitate future extension of any make without any drilling, cutting or welding on the existing equipment. To add equipment, it shall not be necessary to move or dislocate the existing switchgear bays. The layout of Gas Insulated Bus Ducts shall be properly planned to optimize the length of bus ducts and for easy accessibility for maintenance. The length of busbars, bus ducts, isolator sections shall be optimized considering effects of fast transient voltage due to isolator operations.

The bus bar modules including auxiliary bus modules (wherever applicable) shall be provided with suitable End Piece (Interface) module **on both sides** with the test link facility for future extension as per provisions of future requirements. The end piece module shall be designed in such a way so that future GIS modules may be tested without extending test voltage to existing bus and vice-versa by removing the test link.

TSP shall make available the complete details for the design of interface module such as cross section, enclosure material, enclosure dimensions (inner and outer), Flange diameter (inner and outer), conductor cross-section and connection arrangement, bolt spacing & dimension, rated gas pressure, Gasket detail etc. Further, adequate space for GIS busbar interface module shall be taken into account for future scope.

Each section shall have plug-in or easily removable connection pieces to allow for easy replacement of any component with the minimum disturbance to the remainder of the equipment. Inspection windows (View Ports) shall be provided for Disconnect Switches and both type of earth switches i.e. Maintenance and fast operating.

Local Control Cabinets (LCC) shall be provided as per requirement. The alarm & annunciation of GIS equipment shall be wired to the SCADA System.

The material and thickness of the enclosures shall be such as to withstand an internal flashover without burns through for a period of 300 ms at rated short time withstand current. The material shall be such that it has no effect of environment as well as from the by-products of SF6 breakdown under arcing conditions. This shall be validated with Type Test.

Service continuity requirement for GIS:

The GIS equipment with the given bus switching arrangement shall be divided into different gas compartments. During the work such as a fault repair or major maintenance, requiring the dismantling of a gas compartment for which more than one compartments may need to be de-gassed.

TSP shall meet following Service continuity conditions (to the extent possible) with ensuring equipment and operating personnel's safety:



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- For One & half breaker bus switching scheme, during a fault in Circuit Breaker compartment, no bus bar and feeder is permitted out of service during maintenance and repair/replacement.
- For Double Main bus switching scheme, during a fault in Circuit Breaker compartment, no bus bar is permitted out of service during maintenance and repair/replacement.
- During a fault in a GIS compartment other than the Circuit Breaker compartment, maximum of one bus bar and/or one feeder is permitted out of service during maintenance and repair/replacement.

UHF sensors in GIS for PD (Partial Discharge) detection:

The adequate number of Ultra High Frequency (UHF) sensors shall be provided in the offered GIS along with suitable portable type Partial Discharge (PD) measuring instrument for detection of Partial discharge (of 5 pC and above as per IEC 60270). The number and location of these sensors shall be based on laboratory tests on the typical design of GIS as per recommendations of CIGRE Document No. 654 (Application Guide for sensitivity verification for UHF Partial discharge detection system for GIS).

B.2.3.1 Circuit Breakers (GIS)

GIS Circuit breakers shall in general be of C2-M2 class and comply with IEC-62271-100. The rated break time shall not exceed 40 ms for 765 kV and 60 ms for 220 kV. Circuit breakers shall be provided with single phase and three phase auto reclosing. Each breaker would have two sets of trip circuits which would be connected to separate DC supplies for greater reliability. The Circuit breakers controlling 765 kV lines wherever required 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. The short line fault capacity shall be the same as the rated capacity and this is proposed to be achieved without use of opening resistors. Control Switching Device shall be provided in the Circuit Breaker of switchable line reactor bay and in Main & Tie bay circuit breakers of line with non-switchable line reactors, Bus reactors & Transformer of 400 kV and above voltage class.

B.2.3.2 Isolators (GIS)

The isolators shall comply with IEC 62271-102 in general. Earth switches shall be provided at various locations to facilitate maintenance. Main blades and earth blades shall be interlocked, and interlock shall be fail safe type. All isolators and earth switches shall be motor operated type.

The isolator shall be of extended mechanical endurance class-M2 and suitable for Bus Transfer Current Switching duty as per IEC standards. High speed earthing switches shall be provided for grounding purposes at overhead line terminations & cable terminations and cable terminations and shall have fault making capability as specified. Earth switch for line isolator shall be of earthing switch class E1 and shall be suitable for induced current switching duty as defined for Class-B as per relevant



standard.

B.2.3.3 Current Transformers (GIS)

Current Transformers shall comply with IEC 61869 in general. All ratios shall be obtained by secondary taps only. For 400 kV and above voltage class, generally Current Transformers (CT) shall have five cores (four for protection and one for metering) whereas CT in Tie bays shall have six cores (four for protections & two for metering) suitably distributed on both sides of CB. 220 kV Current Transformers (CT) 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. The 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 and protection system (not more than 20 VA for metering core) for better sensitivity and accuracy.

The instrument security factor shall be less than 5 for CTs up to 400 kV voltage class and less than 10 for CTs of 765 kV voltage class.

B.2.3.4 Voltage Transformers (GIS)

The voltage transformers shall conform to IEC-61869. Voltage transformers shall be of electromagnetic type with SF₆ gas insulation. The earth end of the high voltage winding and the ends of the secondary winding shall be brought out in the terminal box. The voltage transformers shall be located as a separate bay module and will be connected phase to ground and shall be used for protection, metering and synchronization. The voltage transformers shall be of inductive type, nonresistant and shall be contained in their own-SF₆ compartment, separated from other parts of installation. The voltage transformer shall be effectively shielded against high frequency electromagnetic transients. The voltage transformer shall have three secondary windings out of which two shall be used for protection and one for metering. The voltage transformer should be thermally and dielectrically safe when the secondary terminals are loaded with the guaranteed thermal burdens. The accuracy class for protection cores shall be 3P. The accuracy of 0.2 on metering core should be maintained throughout the entire burden range on all the three windings without any adjustments during operation. The rated burden of cores shall be closer to the maximum burden requirement of metering and protection system (not more than 50 VA for metering core) for better sensitivity and accuracy.

B.2.3.5 Surge Arresters (GIS)

624 kV, 336kV Station High (SH) duty & 216kV Station Medium (SM) duty gapless type Surge arresters with thermal energy (W_{th}) of minimum 13 kJ/kV, 12 kJ/kV & 7 kJ/kV conforming to IEC 60099-4 in general shall be provided for 800 kV, 420 kV & 245 kV systems respectively. Other characteristics of Surge arrester shall be chosen in accordance with system requirements. Surge arresters shall be provided at line entrance near 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.2.3.6 SF₆ to Air Bushing

Outdoor bushings, for the connection of conventional external conductors to the SF₆ metal enclosed switchgear, shall be provided. Bushings shall generally be in accordance with the requirements of IEC-60137. The creepage distance over the external surface of outdoor bushings shall not be less than 31 mm/kV. SF₆ to air Bushing shall be of Polymer / composite type and shall be robust and designed for adequate cantilever strength to meet the requirement of seismic conditions. The electrical and mechanical characteristics of bushings shall be in accordance with IEC 60137. Polymer/composite insulator shall be seamless sheath of silicon rubber compound. The housing and weather sheds should have silicon content of minimum 30% by weight. It should protect the bushing against environmental influences, external pollution and humidity. The hollow silicon composite insulators shall comply with the requirements of IEC 61462 and the relevant parts of IEC 62217.

B.2.4 765 kV, 400 kV & 200 kV AIS equipment (as applicable)

B.2.4.1 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 and 400 kV circuit breakers and 60 ms for 220 kV circuit breakers. The 765 kV, 400 kV and 220 kV Circuit breakers shall be provided with single phase and three phase auto reclosing. Each breaker would have two sets of trip circuits which would be connected to separate DC supplies for greater reliability. The circuit breakers controlling 765 kV lines shall be provided with either pre-insertion closing resistor of about 450 ohm maximum with 9 ms insertion time or with Controlled Switching Device (CSD). The Circuit breakers controlling 400 kV lines shall be provided with either pre insertion closing resistor of about 400 ohm with 8 ms insertion time or with Controlled Switching Device (CSD) for lines longer than 200 km length. 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 and Tie bay circuit breakers of line with non-switchable line reactors, Bus Reactors and Transformers of 400 kV and above voltage class.

B.2.4.2 Isolators (AIS)

The Isolators shall comply with IEC 62271-102 in general. 765 kV Isolator design shall be double break or vertical break or knee-type. 400 kV and 220 kV Isolators 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 400 kV and 220 kV shall be of extended mechanical endurance class - M2 as per IEC-62271-102. Isolator rated for 220 kV shall be 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. The 765 kV, 400 kV and 220 kV earth switch for line isolator shall be suitable for induced current switching duty as defined for Class-B.

B.2.4.3 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 and 400 kV shall have six cores (four for protection and two for metering) and 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. The accuracy class for the protection core shall be PX and for the metering core it shall be 0.2S. The rated burden of cores shall be closer to the maximum burden requirement of the metering and protection system (not more than 20 VA for metering core) for better sensitivity and accuracy. The instrument security factor shall be less than five (5) for CTs up to 400 kV and less than ten (10) for CTs of 765 kV voltage class.

B.2.4.4 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. The 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 765 kV shall be 8800 pF. The rated burden of cores shall be closer to the maximum burden requirement of metering and protection system (not more than 50 VA for metering core) for better sensitivity and accuracy.

B.2.4.5 Surge Arresters (AIS)

624 kV, 336 kV Station High (SH) duty and 216 kV Station Medium (SM) duty gapless type Surge Arresters with thermal energy (Wth) of minimum 13 kJ/kV, 12 kJ/kV and 7 kJ/kV conforming to IEC 60099-4 in general shall be provided for 800 kV, 420 kV and 245 kV systems respectively. Other characteristics of Surge Arrester shall be chosen in accordance with system requirements. Surge Arresters shall be provided at line entrances, near Transformers and 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.2.5 Protection Relaying and 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 the 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

765 kV, 400 kV and 220 kV lines shall have Main-I numerical three zone distance protection scheme with carrier aided inter-tripping feature. 765 kV, 400 kV and 220 kV 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 and 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 30 km) having Fiber Optic Communication Link. Differential relay at remote end shall be provided by the TSP. The associated power and control cabling and integration with SAS at remote end shall be provided by respective bay owners.

In case of 220 kV line bays for RE Generators, Line Current differential relay (with back up distance protection feature) as Main-I and Main-II shall be provided. Further, in such cases, the matching line current differential relay for remote end shall be provided by the TSP as loose supply. 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 and 400 kV lines shall also be provided with two stage over voltage protection. The over voltage protection and distance to fault locator may be provided as in-built feature of Main-I and 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:



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- i) Numerical Differential Protection
- ii) Numerical Restricted Earth Fault Protection
- iii) Numerical Back-up Over-Current and Earth Fault Protection on High Voltage (HV) and Intermediate Voltage (IV) side
- iv) Numerical Over Fluxing Protection on HV and IV side
- v) Numerical Overload Alarm

Further, Numerical Back-up Over-current and earth fault protection on HV and IV 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 and 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 and protection IEDs to be provided for autotransformer.

c) 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 765 kV, 400 kV and 220 kV buses. Duplicated bus bar protection is envisaged for 765 kV and 400 kV 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 envisaged future bays i.e. input / output modules for future bays for the bus section under present scope 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.

Peripheral Units (PUs) shall be provided by the respective bay owners

For existing substations, the existing bus bar protection shall be augmented as per requirement.

d) Local Breaker Back up Protection

This shall be provided for each 765 kV, 400 kV and 220 kV circuit breakers and will be connected to de-energize the affected stuck breaker from both sides.



Notes:

- 1) *LBB and 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 and overload protection can be provided as built-in feature of differential relay.*
- 4) *In 765 kV and 400 kV switchyard, if spare bay of half diameter is identified as future, Tie CB relaypanel shall be with Auto-reclosure feature.*

B.2.6 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 fibre 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 the Substation Automation System.

At the new substations, the Substation Automation System (SAS) shall be suitable for the operation and monitoring of the complete substation including proposed future bays/elements.

In the existing substations with a Substation Automation System (SAS), augmentation of existing SAS shall be done for bays under the present scope.

In the existing Substations where Substation automation is not provided, control functions shall be done through control panels.

Necessary gateway and modems (as required) shall be provided to send data to RLDC/SLDC as per their requirement and shall be provisioned with 2+2 redundancy i.e. 2 channels for Main Control Centre and 2 channels for Backup Control Centre. In order to meet this requirement, suitable redundancy at port and card level need to be ensured by the TSP to avoid any single point of failure which may lead to interruption in real-time grid operation. Accordingly, all the hardware for communication services of station as stated above shall support dual redundancy for data transmission of station to respective main and backup RLDCs. 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 and processing equipment required to receive time signal through GPS/NavIC or from National Physical Laboratory (NPL) through INSAT shall be provided at new substations. This equipment shall be used to synchronize SAS and IEDs etc.

B.3.0 Substation Support Facilities

Certain facilities required for the operation and maintenance of substations as described below shall be provided at the new substation. In existing substation, these facilities have already been provided and will be extended/ augmented as per requirement.

B.3.1 AC and DC power supplies

For substation extensions, existing facilities shall be augmented as required.

B.3.2 Fire Fighting System

Fire-fighting system for substation including Transformer and Reactor shall conform to CEA (Measures Relating to Safety and Electric Supply) Regulations, 2023 as amended from time to time.

At existing substations, the fire-fighting systems as available shall be extended to meet the additional requirements.

B.3.3 Oil evacuating, Filtering, Testing and 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.

Online Transformer Oil Drying Out System shall be provided in line with the provisions of Standard Specification and Technical Parameters for Transformers and Reactors (66 kV and above Voltage Class) as amended up to date available on CEA website

B.3.4 Illumination

Normal and emergency AC and DC illumination shall be provided adequately in the control room and other buildings of the substation. The switchyard shall also be provided with adequate illumination.



The 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 luminaries.

B.3.5 Control Room

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 GIS hall

The Gas Insulated Switchgear (GIS) of each voltage level along with other associated equipment shall be housed inside the GIS building. The panels i.e. Bay level units, bay mimic, relay and protection panels, RTCC panels, PLCC panels, panels for tele-communication system etc. are to be placed in a separate room in the GIS building. The size of the room shall be such that all the panels for the bays under present scope shall be accommodated. The panel room shall be air-conditioned. Further, the temperature of the room shall be monitored through substation automation system by providing necessary temperature transducers. Ventilation system of suitable capacity shall be provided for each GIS hall.

One EOT Crane of suitable capacity for erection & maintenance of largest GIS component/assembly and all plant installed in the GIS switchgear room shall be provided in each GIS hall. The crane shall be capable of fulfilling all special requirements for erection & maintenance of GIS equipment. The capacity of the crane shall be sized to lift the heaviest GIS switchgear component.

For extension of existing GIS, existing facilities shall be suitably augmented/extended for GIS equipment under present scope.

B.3.7 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.3.8 Visual Monitoring System (VMS) for watch and ward of substation premises:

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, gantry/tower shall be designed for extension (considering Hexa conductors for 765 kV and Quad conductors for 400 kV and Twin conductor for 220 kV future lines) wherever applicable.



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- b) Bay extension works at existing substation shall be executed by TSP in accordance with the requirements/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/m² however, for coastal/creek regions it shall be at least 900 g/m² (if applicable).
- 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. 3150 A.
- f) All electrical equipment shall be installed above the Highest Flood Level (HFL) 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.

B.5.0 EXTENSION OF EXISTING SUBSTATION

The following drawings/details of existing substation are attached with the RfP documents for further engineering by the bidder.

Sl. No.	Drawing Title	Drawing No./Details	Rev. No.
A. Bhadla-III PS			
1.0	Single Line Diagram	C/ENGG/SS/BHADLA-3/SLD	00
2.0	General Arrangement	C/ENGG/SS/NR-I/BHADLA - 3/GA	00
3.0	Earthmat Layout	JAK-PGCIL-BAD-400-SYD-EMT-004	00
4.0	Visual Monitoring System	Make : Videonatics Model: NA	--
5.0	Bus Bar Protection	Make : GE Model: P741	--
6.0	Substation Automation System (SAS)	Make : GE	--
B. Ramgarh PS			
1.0	Single Line Diagram	C/ENGG/SS/RAMGARH PS/SLD	—
2.0	General Arrangement	C/ENGG/SS/RAMGARH-II PS/GA DRG	R0
3.0	Earthmat Layout	KEC-SA-409-RMGH-C1-ESE-306-DRG-002	R2
4.0	Visual Monitoring System	Make: Videonatics	



		Model: Videonetics	
5.0	Bus Bar Protection	Make: GE Model: P741	--
6.0	Substation Automation System (SAS)	Make: GE	--
C. Kanpur (PG) S/s			
1.0	Single Line Diagram	PG/PGCIL/KNP/Sld-drg/001	R4
2.0	General Arrangement	TCE-7320A-740-GA-3011	R7
3.0	Earthmat Layout	TCE-7320A-816-GL-3029	R2
4.0	Visual Monitoring System	Make : Videonatics Model: IVMS 3.0	--
5.0	Bus Bar Protection	Make : Hitachi Model: REB670	--
6.0	Substation Automation System (SAS)	Make: Hitachi Model: MicroSCADA SYS600 Version 10.5	--

B.5.1 The existing drawings provided above and in subsequent amendments to the RfP are as received from the developer of existing substation and provided only for reference. Bidders shall follow the RfP for scope of work. Actual site conditions may be different due to other schemes being executed or subsequent revisions by the developer. Thus, Bidders are advised to visit the substation sites and acquaint themselves for details such as:

- Actual site conditions, Layout, Topography
- Infrastructure such as roads, cable trench, drainage
- Space availability in existing control room and LT panel room
- Soil Investigation
- Fire Hydrant Layout
- SAS architecture and IO list
- Boundary
- Design philosophy etc.



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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, CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2022, CERC (Communication System for inter-State transmission of electricity) Regulations, 2017, CEA (Cyber Security in Power Sector) Guidelines, 2021, CEA Guidelines on Unified Philosophy for placement of PMUs in Indian Grid, March 2025 and all above documents as amended from time to time.

The communication services viz. SCADA, AGC (wherever applicable), VoIP, AMR and PMU have been identified as critical services and therefore shall be provisioned with 2+2 redundancy i.e. 2 channels for Main Control Centre and 2 channels for Backup Control Centre. In order to meet this requirement, suitable redundancy at port and card level need to be ensured by the TSP to avoid any single point of failure which may lead to interruption in real-time grid operation.

PMU to PDC communication (wherever required) shall be through 2 channels to the PDC (main) as there is no backup PDC at present.

Accordingly, all the hardware for communication services of station as stated above shall support dual redundancy for data transmission of station to respective main and backup RLDCs

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.

TSP shall deploy Cyber Security System in compliance with CEA (Cyber Security in Power Sector) Guidelines, 2021 and CEA (Cyber Security in Power Sector) Regulation, from its date of publication/ notification and their amendments thereof.

In order to meet the requirement for grid management and operation of substations, Transmission Service Provider (TSP) shall provide the following:

C.1.0 FOTE Requirement for Line bays at Bhadla-III PS

- (I) TSP shall supply, install & commission FODP with minimum 384 Fiber capacity along with panel and approach Cable (48F each) with all associated hardware fittings from gantry tower 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 along with panel/s supporting minimum eight (8) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Necessary direction shall be provided in FOTE for 5 no. Of 220kV line bays, 1 no. 400kV line bay, however required optical interfaces shall be provided by upcoming entities on this line at the time of connectivity with Bhadla-III PS. The suitable DC Power Supply and backup to be provided for communication equipment.
- (III) FOTE/FODP panel shall be installed in the new Bay Kiosk (Switchyard Panel Room (SPR)). The FOTE under present scope shall be integrated by TSP with the existing FOTE at control room of Bhadla-III PS which shall be communicating with respective control



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center. TSP to provide necessary FODP sub rack / Splice trays/ Patch cords etc. and optical interfaces/equipment in the existing FOTE/FODP panels in control room for integration with the existing FOTE for onwards data transmission.

- (IV) In case spare optical direction is not available in the existing FOTE at the control room, the TSP shall coordinate with station owner to reconfigure the directions in existing FOTE at control room. Alternatively, The TSP may integrate the FOTE under the present scope with existing FOTE in the nearby Kiosk connected to the control room FOTE (if available with spare direction). For this purpose, TSP shall provide necessary FODP sub rack / Splice trays/ Patch cords etc. and suitable optical interfaces/ equipment in the existing FOTE/FODP panels in another Kiosk (SPR).
- (V) FOTE & FODP Eq can be accommodated in same panel to optimize space.
- (VI) The maintenance of all the communication equipment and software thereof including FOTE, FODP, PMU, approach cable, DCPS along with Battery Bank and cyber security system shall be the responsibility of TSP.

C.2.0 FOTE Requirement for line bays at Ramgarh PS

- (I) TSP shall supply, install & commission FODP with minimum 240 Fiber capacity along with panel and approach Cable (48F each) with all associated hardware fittings from gantry tower 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 along with panel/s supporting minimum Three (5) directions with MSP (Multiplex Section Protection – 1+1). These directions shall exclude protected (1+1) local patching among equipment (if any). Necessary directions shall be provided in FOTE for 2 no. of 220 kV line bay, 1 no. of 400kV line bay, however required optical interfaces shall be provided by upcoming entities on this line at the time of connectivity with Ramgarh PS. A suitable DC Power Supply and backup to be provided for communication equipment.
- (III) FOTE/FODP panel shall be installed in the new Bay Kiosk (Switchyard Panel Room (SPR)). The FOTE under present scope shall be integrated by TSP with the existing FOTE at control room of Ramgarh PS which shall be communicating with respective control center. TSP to provide necessary FODP sub rack / Splice trays/ Patch cords etc. and optical interfaces/equipment in the existing FOTE/FODP panels in control room for integration with the existing FOTE for onwards data transmission.

In case spare optical direction is not available in the existing FOTE at the control room, the TSP shall coordinate with station owner to reconfigure the directions in existing FOTE at control room. Alternatively, The TSP may integrate the FOTE under the present scope with existing FOTE in the nearby Kiosk connected to the control room FOTE (if available with spare direction). For this purpose, TSP shall provide necessary FODP sub rack / Splice trays/ Patch cords etc. and suitable optical interfaces/ equipment in the existing FOTE/FODP panels in another Kiosk (SPR).

- (IV) FOTE & FODP Eq can be accommodated in same panel to optimize space



- (V) The maintenance of all the communication equipment and software thereof including FOTE, FODP, PMU, approach cable, DCPS along with Battery Bank and cyber security system shall be the responsibility of TSP.

C.3.0 Specific Requirement for Phasor Measurement Units (PMUs)

TSP shall supply, install and commission required No. of Phasor Measurement Units (PMUs) as per the "Guidelines on Unified Philosophy for placement of PMUs in Indian Grid" issued vide CEA letter No. CEA-PS-14-12/9/2024-PSETD Division dated 19.03.2025 for the scope of this RFP. The PMUs shall be provided with LAN switch and shall connect with LAN switch of control room of respective substations/ generating stations with Fibre Optic cable. The PMUs shall be connected with the FOTE at Substation/ generating stations for onwards data transmission to the PDC (Phasor Data Concentrator) located at respective RLDC. Configuration work in existing PDC at RLDC for new PMU integration shall be done by respective RLDC, however all the necessary support in this regard shall be ensured by TSP. The maintenance of all the PMUs and associated equipment shall be the responsibility of TSP.

Note: Existing Station owner/s to provide necessary support to integrate different equipment and 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.4.0 Specific Requirement for UNMS Integration of FOTE

Communication system integration in UNMS/CSMS

TSP is to ensure integration of communication system into UNMS/CSMS as per following: "The new communication equipment/ system under the present scope shall be compatible for integration with existing regional level NMS system/ Centralized Supervision & Monitoring System (CSMS) i.e. Regional UNMS. The local configuration of the new communication equipment/ system at the station end shall be the responsibility of TSP as per followings. The configuration work in the existing centralized NMS/ UNMS at Control center end, for integration of new Communication equipment/ system shall be done by Regional ULDC Team/ NMT, however all the necessary support in this regard shall be ensured by TSP.

Requirement for integration of Communication Equipment/ system with Regional UNMS:

1. TSP shall ensure that NMS/EMS/NE supplied by them is NBI compliant and all FCAPS functionality is supported in the NBI such as NE Inventory, Hardware Inventory– Shelf/Slot/Card/SFP/Port, Topology, Protections, Alarms, Performance-real time and periodic, Performance KPI parameters (E-1, STM, Ethernet), Remote Configuration, Cross Connects, Trails and Circuits, Services Provisioning (NE), E-1, STM, Ethernet, TX and RX Trace, loop back and details are published in the NBI guide for the configuration parameters.
2. TSP shall be obliged to provide/share all necessary documentations such as NBI Guide/MIB/IDL/WSDL/API files etc. for onward integration of their NMS/EMS/NE with regional UNMS.



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3. The following support shall be provided by TSP for integration of their supplied equipment with regional UNMS:
 - Enabling and activating NBI license in their EMS/NMS and providing NBI login access along with User credentials
 - Assist in verifying NBI Connectivity with UNMS vendor for the successful communication and retrieval of data.
 - Assist in troubleshooting (if required) for NBI connectivity along with UNMS vendor for the communication and retrieval of data.
4. For standalone NE which is not integrated with any EMS/NMS, TSP shall provide modality of complete FCAPS data acquisition as above through industry standard programmatic methods and provide the CLI command manual."

Proposed scheme for "Augmentation with 400/220 kV 5x500 MVA (6th to 10th) ICTs at Bhadla-III PS, 765/400 kV, 2x1500 MVA (3rd & 4th) ICTs & 400/220 kV, 2x500 MVA (3rd & 4th) ICTs at Ramgarh PS and 765/400 kV, 1x1500 MVA (3rd) ICT at Kanpur (PG) S/s"

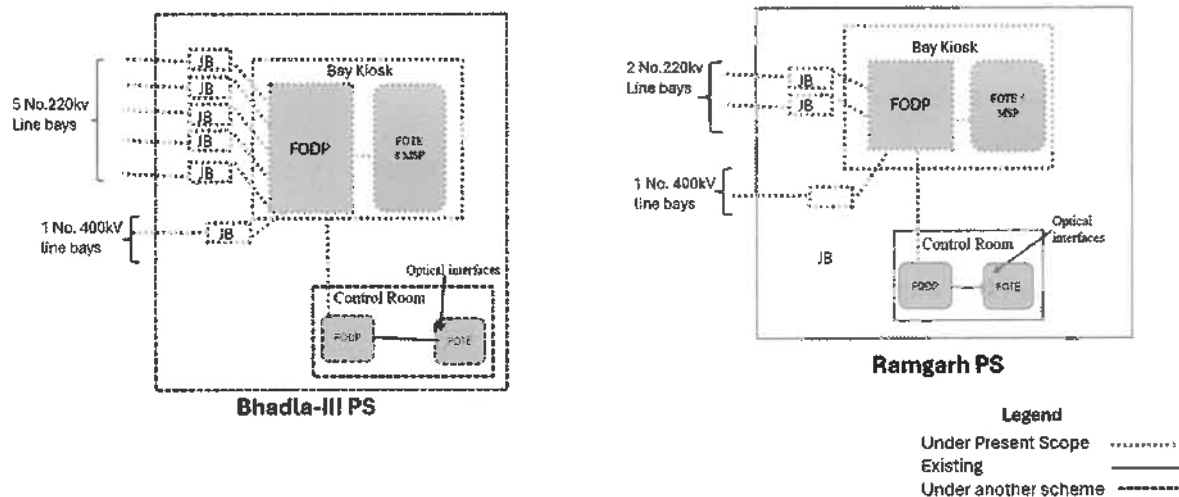


Figure F.1



Frequently Asked Queries:

Substation

- 1.1 We understand that space for storage of O&M spare shall be provided by the 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.

- 1.2 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 the responsibility of the TSP. Further, TSP shall follow CEA's "Operation and Maintenance (O&M) guidelines and Standard Format for Memorandum of Understanding between New TSP and Existing TSP" issued by CEA vide its letter No. I/28514/2023 dated 22.06.2023.

- 1.3 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 be 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 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.

- 1.4 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.

- 1.5 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 a chargeable basis.

- 1.6 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.



- 1.7 It is understood that Construction water and power shall be provided free of cost to TSP by the respective substation owner for construction of new bays.

Reply: Arrangement of construction power and water is in the scope of TSP.

- 1.8 It is understood that the 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)

- 1.9 Please clarify the Status of land acquisition for new Substations. Whether the lands have been acquired by BPC and will be transferred to TSP.

Reply: The acquisition of land for new substation is in the scope of TSP.

- 1.10 We understood that no any dedicated metering CT and CVT required for Line/feeders. Further, we understood that requisite Energy meters for various 765 kV, 400 kV and 220 kV Feeders shall be provided and 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 matches 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).

- 1.11 A draft copy of the Connection Agreement may be furnished. A draft copy of the Connection Agreement may be furnished.

Reply: Web page link https://www.ctuil.in/formats_gna_transition

- 1.12 Please clarify whether the spare 765 kV single phase Reactor unit for Bus reactor shall be provided with 1ph 765 kV CB.

Reply: As per RfP, the spare 1-Ph reactor unit shall be utilized for all the bus and switchable line reactor banks (including for future reactor banks). Hence, 1ph 765 kV CB shall also be provided with spare 1-Ph reactor for utilizing with bus reactor as well as switchable line reactor.

- 1.13 It is understood that existing busbar protection has provision for future bays and also PUs are available for future bays. BPC to confirm availability of CU and PU for bays under present scope of work at existing substations. BPC may kindly confirm availability of communication ports for integrating new PUs with the existing CUs at existing substations.

Reply: Bus Bar Protection with Central Unit (CU) is required for the new bus section as specified in RfP. Peripheral Units (PUs) shall be provided by the respective bay owner. Further, augmentation/replacement of existing CU, if required, to meet the system requirement shall also be provided for proper functioning of bus bar protection.




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- 1.14 For SCADA, it is understood that necessary process I/O shall be available for future bays and accordingly license for same. BPC to confirm.

Reply: Necessary process I/O along with license shall be in the scope of the successful bidder.

- 1.15 No separate FF system is envisaged under the present scope of work for existing substation. BPC to confirm.

Reply: Existing fire-fighting systems shall be extended to meet the additional requirements under present scope.

- 1.16 PLCC for 220 kV Lines are not under the scope of TSP. BPC to Confirm. It is requested to provide Type of Coupling for 220 kV Transmission Lines under present scope.

Reply: PLCC for 220 kV line is in the scope of developer of the line.

Inter circuit coupling for 220 kV D/C and phase to phase coupling for 220 kV S/C shall be applicable for PLCC.

- 1.17 BPC is requested to confirm the availability of space in the existing control rooms at existing substation for execution of extension work under current project.

Reply: Switchyard Panel Rooms are generally required for AIS type substation and relay room are required for GIS type substation. Further, if needed, the control room shall be augmented as per requirement.

Communication

- 2.1 What are the usage 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 etc. and PMU are required for grid operation through RLDC/SLDC, speech communication, tele-protection and tele-metering.

- 2.2 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 install FOTE/FODP panels in the new Bay Kiosk (Switchyard Panel Room (SPR)) / 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 to complete the communication path upto RLDC.



In Case 132 kV Substation TSP shall accommodate the said panels either by extension of existing control room or other arrangements.

2.3 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 one No. OPGW having fibers equal to no of fibers in main line OPGW shall be required to be install by TSP on both earthwire peak on 400 kV and 765 kV lines where two E/W peaks are available. On 220 kV and 132 kV lines where only one E/W peak is available TSP to install one No. OPGW having fibers double the No. of fibers in main line 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 one No. OPGW having fibers equal to no of fibers in main line OPGW shall be required to be install by TSP on one earthwire peak and conventional earthwire on second earthwire peak, on both Line In and Line Out portion towers of 400 kV and 765 kV lines. On 220 kV and 132 kV lines where only one E/W peak is available TSP to install one No. OPGW having fibers equal to no of fibers in main line OPGW in place of conventional earthwire.

2.4 How is the OPGW laying done in the case of 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), Then OPGW having fibers equal to fibers laid on different lines to be installed on both E/W peaks for common M/C portion of 765 kV & 400 kV lines by the TSP. In case 220/132 kV lines using multi circuit portion where single E/W peak is available, required OPGW to accommodate all the OPGW fibers of different transmission lines may be installed for common multi circuit portion.

2.5 How PMUs are integrated for new bays at existing Substations?

Reply: PMU data of new bays to be provided in the ethernet port of switch at control room and thereafter to be connected with existing FOTE of existing substation to send data to PDC of RLDC by TSP. These PMUs shall be provided with GPS clock and LAN switch and shall connect with LAN switch of control room of respective substations with Fiber Optic cable. In this regard, the "Guidelines on Unified Philosophy for placement of PMUs in Indian Grid" issued vide letter No. CEA-PS-14-12/9/2024-PSETD Division dated 19.03.2025 shall be followed.

2.6 Is Spare direction available in existing FOTE for integration with new bay kiosk FOTE

Reply: The FOTE under present scope shall be integrated by TSP with the existing FOTE at control room of substation for onwards data transmission. In case spare optical direction is not available in the existing FOTE at the control room, the TSP shall coordinate with station owner to reconfigure the directions in existing FOTE at control room.

2.7 What is the distance from LILO point to proposed substation for feasibility of repeater station?



Reply: Tentative Location of LILO point shall be as per survey report of BPC however exact location to be ascertained after detailed survey by TSP.

- 2.8 What is the make and model of existing OPGW in case LILO of main line at new substation?

Reply: All OPGW (along with optical fibers) meet Central Electricity Authority (Technical Standards for Communication System in Power System Operations) Regulations, 2020 and bidder shall install OPGW accordingly.

- 2.9 In case of LILO of existing line at new substation who shall provide PMUs at existing substation bays?

Reply: TSP shall provide the PMUs for the scope under RfP in compliance of "Guidelines on Unified Philosophy for placement of PMUs in Indian Grid" issued vide letter No. CEA-PS-14-12/9/2024-PSETD Division dated 19.03.2025.

Planning:

- 3.1 Whether the Project/ Elements are eligible for early commissioning incentive as per MoP, GoI order dated 15.07.2015.?

Reply: Commissioning is to be done as per the timeline mentioned in RfP. However, early commissioning shall be treated as per applicable CERC Regulations/orders.



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Schedule: 2**Scheduled COD**

[Note: As referred to in the definition of "Element", "Scheduled COD", and in Article 3.1.3 (c), 4 (b) and 4.3 (a) of this Agreement]

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.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220 kV Bhadla-III PS	20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1))	36.4%	These elements of the scheme are required to be commissioned simultaneously as their utilization is dependent on each other.
2.	Implementation of 5 Nos. of 220 kV line bays at 765/400/220 kV Bhadla-III PS.			
3.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Bhadla-III PS.			
4.	Implementation of 2 sets 400 kV sectionlizer bay at 765/400/220 kV Bhadla-III PS			
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS		39.6%	These elements of the scheme are required to



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
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS			be commissioned simultaneously as their utilization is dependent on each other.
7.	Implementation of 2 Nos. of 220 kV line bays at 765/400/220 kV Ramgarh PS			
8.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Ramgarh PS			
9.	Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400 kV Kanpur (PG) substation		24%	Utilization of this Element is independent

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: 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1)).



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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	$140 \times 25\% \times ((28+31)/365)$	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



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Illustration-2: In case of extension of Scheduled COD as per Article 4.4.1 & 4.4.2 of this 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



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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%
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



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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 timeQuoted 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 ProjectQuoted 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 elementQuoted 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%



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Tariff Payment to be paid as:

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%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * 1$$

- b. 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%;

$$\text{Monthly Transmission Charges MTC}(m) = T_{mn} * (AA / 98\%)$$



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- 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:

- 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' = $(\text{Transmission Charge/ no. of days in the Year n}) * \text{no. of days in month m}$

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.



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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.



Signature

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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 Annual Transmission Charges: Rs. 1193.45 Million

Proportionate Transmission Charges payable for each Element of the Project:

Sl. No.	Name of the Transmission Element	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.	Augmentation of 400/220 kV, 5x500 MVA (6 th to 10 th) ICTs at 765/400/220 kV Bhadla-III PS	36.4%	These elements of the scheme are required to be commissioned simultaneously as their utilization is dependent on each other.
2.	Implementation of 5 Nos. of 220 kV line bays at 765/400/220 kV Bhadla-III PS.		
3.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Bhadla-III PS.		
4.	Implementation of 2 sets 400 kV sectionlizer bay at 765/400/220 kV Bhadla-III PS		
5.	Augmentation of 765/400 kV, 2x1500 MVA (3 rd & 4 th)	39.6%	These elements of the scheme are



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Sl. No.	Name of the Transmission Element	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
	ICTs at 765/400/220 kV Ramgarh PS		required to be commissioned simultaneously as their utilization is dependent on each other.
6.	Augmentation of 400/220 kV, 2x500 MVA (3 rd & 4 th) ICTs at 765/400/220 kV Ramgarh PS		
7.	Implementation of 2 Nos. of 220 kV line bays at 765/400/220 kV Ramgarh PS		
8.	Implementation of 1 No. of 400 kV line bay at 765/400/220 kV Ramgarh PS		
9.	Augmentation of 765/400 kV, 1x1500 MVA (3 rd) ICT at 765/400 kV Kanpur (PG) substation	24%	Utilization of this Element is independent



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Schedule: 6

Appendix -IV to the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2024

Procedure for Calculation of Transmission System Availability Factor for a Month

1. Transmission system availability factor for nth calendar month ("TAF_{Pn}") shall be calculated by the respective transmission licensee, 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 the case of the AC system, transmission System Availability shall be calculated separately for each Regional Transmission System and inter-regional transmission system. In the case of the HVDC system, transmission System Availability shall be calculated on a consolidated basis for all inter-state HVDC systems.
2. Transmission system availability factor for nth calendar month ("TAF_{Pn}") shall be calculated by considering the 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 transformers 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 the HVDC link, along with associated equipment at both ends, shall be considered as one element;
 - vi) **HVDC back-to-back station:** Each block of the HVDC back-to-back station shall be considered as one element. If the associated AC line (necessary for the transfer of inter-regional power through the HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered unavailable;
 - vii) **Static Synchronous Compensation ("STATCOM"):** Each STATCOM shall be considered as a separate element.



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3. The Availability of the AC and HVDC portion of the Transmission system shall be calculated by considering each category of transmission elements as under:

TAFPA (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_o	=	Availability of o number of AC lines
p	=	Total number of bus reactors/switchable line reactors
AV_p	=	Availability of p number of bus reactors/switchable line reactors
q	=	Total number of ICTs
AV_q	=	Availability of q number of ICTs
r	=	Total number of SVCs
AV_r	=	Availability of r number of SVCs
u	=	Total number of STATCOM
AV_u	=	Availability of u number of STATCOM

TAFMn (in %) for HVDC System:

$$= \frac{\sum_{x=1}^n C_{xpb}(\text{act}) \times AV_{xpb} + \sum_{y=1}^t C_{ybtb}(\text{act}) \times AV_{ybtb}}{\sum_{x=1}^n C_{xpb} + \sum_{y=1}^t C_{ybtb}} \times 100$$

Where

C_{xpb}(act)	=	Total actual operated capacity of x th HVDC pole
C_{xpb}	=	Total rated capacity of x th HVDC pole
AV_{xpb}	=	Availability of x th HVDC pole
C_{ybtb}(act)	=	Total actual operated capacity of y th HVDC back-to-back station block
C_{ybtb}	=	Total rated capacity of y th HVDC back-to-back station block
AV_{ybtb}	=	Availability of y th HVDC back-to-back station block
n	=	Total no of HVDC poles
t	=	Total no of HVDC Back to Back blocks



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Transmission Service Agreement

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 the Availability of each category of the transmission elements are as per **Appendix-V**. The weightage factor for each category of transmission elements shall be considered as under:

- (a) For each circuit of the AC line – The 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 stations 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 the 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 an 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 a dispute regarding deemed availability, the matter may be referred to the 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 the concerned RLDC.
- iii. Shut down of a transmission line due to the Project(s) of NHA, Railways and Border Road Organization, including for shifting or modification of such transmission line or any other infrastructure project approved by Ministry of Power. Member Secretary, RPC may restrict the deemed availability period to that considered reasonable by him for the work involved; Provided that apart from the deemed availability, any other costs involved in the process of such shutdown of transmission line shall not be borne by the DICs.



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[Signature]

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Provided that such deemed availability shall be considered only for the period for which DICs are not affected by the shutdown of such transmission line.

6. For the following contingencies, the outage period of transmission elements, as certified by the Member Secretary, RPC, shall be excluded from the total time of the element under the period of consideration for the following contingencies:

- i) Outage of elements due to 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 the 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 a substation or bays owned by another agency causing an 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;
- iii) The outage period which can be excluded for the purpose of sub-clause (i) and (ii) of this clause shall be declared as under:
 - a. Maximum up to one month by the Member Secretary, RPC;
 - b. Beyond one month and up to three months after the decision at RPC;
 - c. Beyond three months by the Commission for which the transmission license shall approach the Commission along with reasons and steps taken to mitigate the outage and restoration timeline.

7. Time frame for certification of transmission system availability: (1) The following schedule shall be followed for certification of availability by the Member Secretary of the concerned RPC:



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- Submission of outage data along with documentary proof (if any) and TAFPN calculation by Transmission Licensees to RLDC/ constituents
– By the 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 the 3rd of the next month.



[Signature]

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Appendix-V

FORMULAE FOR CALCULATION OF AVAILABILITY OF EACH CATEGORY OF TRANSMISSION ELEMENTS

For AC transmission system

$$AV_o(\text{Availability of } o \text{ no. of AC lines}) = \frac{\sum_{i=1}^o W_i(T_i - TNA_i) T_i}{\sum_{i=1}^o W_i}$$

$$AV_q(\text{Availability of } q \text{ no. of ICTs}) = \frac{\sum_{k=1}^q W_k(T_k - TNA_k) T_k}{\sum_{k=1}^q W_k}$$

$$AV_r(\text{Availability of } r \text{ no. of SVCs}) = \frac{\sum_{i=1}^r W_i(T_i - TNA_i) T_i}{\sum_{i=1}^r W_i}$$

$$AV_p(\text{Availability of } p \text{ no. of Switched Bus reactors}) = \frac{\sum_{m=1}^p W_m(T_m - TNA_m) T_m}{\sum_{m=1}^p W_m}$$

$$AV_u(\text{Availability of } u \text{ no. of STATCOMs}) = \frac{\sum_{n=1}^u W_n(T_n - TNA_n) T_n}{\sum_{n=1}^u W_n}$$

$$AV_{xtp}(\text{Availability of an individual HVDC pole}) = \frac{(T_x - TN)}{T_x}$$

AV_{yts} (Availability of an individual HVDC

$$\text{Back-to-back Blocks}) = \frac{(Ty - TNA_y)}{Ty}$$



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For the HVDC transmission system

For the new HVDC commissioned but not completed twelve months;

For first 12 months: $[(AV_{xtp} \text{ or } AV_{ytp}) \times 95\% \div 85\%]$, subject to a ceiling of 95%.

Where,

o	=	Total number of AC lines;
AV_o	=	Availability of o number of AC lines;
p	=	Total number of bus reactors/switchable line reactors;
AV_p	=	Availability of p number of bus reactors/switchable line reactors;
q	=	Total number of ICTs;
AV_q	=	Availability of q number of ICTs;
r	=	Total number of SVCs;
AV_r	=	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 attributed to transmission licensee for the reasons given in Para 5 of the procedure)
T_{NAI}, T_{NAk}	=	The non-availability hours (excluding the time period for outages not attributable to transmission licensee taken as deemed availability as $T_{NAI}, T_{NAk}, T_{NAl}, T_{NAk}, T_{NAl}, T_{NAk}$ 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.



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Schedule: 7

Entire Bid (both financial bid and technical bid) of the Selected Bidder to be attached here

Bid dated 04.06.2026 and 23.06.2026 shall be an integral part of this Agreement




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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 **Error! Reference source not found.** 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.

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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 name of the SPV] or the Selected Bidder, as the case may be, to make any claim against or any demand on[Insert name of the SPV] or the Selected Bidder, as the case may be, or to give any notice to[Insert 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[Insert name of the 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 Error! Reference source not found. of the Transmission Service Agreement], 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 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



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SCHEDULE: 8A

(ISB for CPG)

FORMAT FOR SURETY INSURANCE CONTRACT

(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 of India)

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] (hereinafter referred to as the '**Principal Debtor**' for the purposes of this Surety Insurance Contract as provided in Section 126 of the Indian Contract Act, 1872) having been selected to undertake the Transmission Project on the terms and conditions contained in the Transmission Service Agreement dated/ to be executed as per the Model Transmission Service Agreement provided along with the Request for Proposal ('RFP') and other RFP Project Documents, subject to the condition of providing a Performance Bank Guarantee or a Surety Insurance Contract guaranteeing/insuring the due performance of the obligations under the Transmission Service Agreement, to the Central Transmission Utility of India Limited ('CTUIL') [herein after referred to as the Nodal Agency], the [Insert name and address of the Insurance Company issuing the Surety Insurance Contract and address of the head office] (hereinafter referred to as "**Surety**") hereby agrees unequivocally, irrevocably, absolutely and unconditionally, without demur, to pay to the Nodal Agency at _____ [Insert Place and Address of the Nodal Agency indicated in Transmission Service Agreement, or to the designated Bank Account of the Nodal Agency, namely.....] forthwith on demand in writing from the Nodal Agency, or any Officer authorized by it in this behalf, intimated to the Surety at the address mentioned above, any amount as may be decided by the Nodal Agency not exceeding RupeesCrores (Rs.....) only [Insert the amount of the Surety Insurance Contract]

The Surety hereby acknowledges, accepts and confirms that the Surety has received from the Principal Debtor, by way of premium the entire consideration for the Surety to execute, in favour of the Nodal Agency, this Surety Insurance Contract, as extended by the Surety from time to time and assuming the obligation to pay to the Nodal Agency the amount in terms hereof, without any requirement for payment of any other consideration to the Surety by the Principal Debtor, or otherwise.

This Surety Insurance Contract shall be valid and binding on the Surety, as the principal obligation of the Surety to pay on demand by the Nodal Agency, and shall not be terminable by notice or any change in the constitution of the Surety or the term of the Transmission Service Agreement or by any other reasons whatsoever and the liability hereunder of the Surety shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed (with or without the knowledge or consent of the Surety) by or between the Principal Debtor and the Nodal Agency.

The liability of the Surety under this Surety Insurance Contract is restricted to Rupees Crores (Rs) only. The Surety Insurance Contract shall remain in force until

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[Insert the date of validity of the Surety Insurance Contract]. The Nodal Agency shall be entitled to invoke this Surety Insurance Contract up to three hundred sixty five (365) days after the last date of the validity of this Surety Insurance Contract.

The Surety hereby expressly agrees that it shall not require any proof except for the written demand from the Nodal Agency, containing the statement that the contractor has failed to meet its contractual obligations raised at the above mentioned address of the Surety (address of Surety office should be a place in NCR only) and the Surety shall pay the amount without reference to the Principal Debtor.

Any such demand made by the Nodal Agency on the Surety shall be conclusive and binding notwithstanding any difference between the Nodal Agency and the Principal Debtor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Surety undertakes not to revoke this guarantee during its currency without previous consent of the Nodal Agency and further agrees that the Surety Insurance Contract herein contained shall continue to be enforceable till the Nodal Agency discharges this contract or till the expiry of tenor (including Claim period) whichever is earlier.

The Surety shall make payment hereunder within two (02) working days on first demand without restriction or conditions and notwithstanding any objection by the Principal Debtor, namely,[Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person. The Surety shall not require the Nodal Agency to justify the invocation of this Surety Insurance Contract, nor shall the Surety have any recourse against the Nodal Agency in respect of any payment made hereunder.

This **SURETY INSURANCE CONTRACT** shall be interpreted in accordance with the laws of India.

This **SURETY INSURANCE CONTRACT** is being executed by the Surety in terms of the IRDAI (Surety Insurance Contract) Guidelines, 2022 and the Surety hereby acknowledges, accepts and confirms that this Surety Insurance Contract shall be a Contract of Guarantee as provided under Section 126 of the Indian Contract Act, 1872 and further shall be covered by Section 14(3)(b) of the Insolvency and Bankruptcy Code, 2016 (as amended) shall be enforceable as such.

The Surety represents that this Surety Insurance Contract has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Surety in the manner provided herein.

This **SURETY INSURANCE CONTRACT** 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 Surety.

In order to give effect to this surety Bond, the Nodal Agency shall be entitled to act as if the surety insurer were the principal debtor and any change in the constitution of the contractor and/or the surety insurer, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the surety insurer under this surety Bond.

This **SURETY INSURANCE CONTRACT** shall be a primary obligation of the Surety as a Principal to pay on demand by the Nodal Agency and the Nodal Agency shall not be obliged before enforcing this Surety Insurance Contract to take any action in



Central Transmission Utility of India Limited

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Transmission Service Agreement

any court or arbitral proceedings against the Principal Debtor, namely, [Insert name of SPV], or[Insert name of the Selected Bidder], or[Insert name of the TSP] and/or any other person, as the case may be, to make any claim against or any demand on the Principal Debtor, namely, [Insert name of SPV], or [Insert name of the Selected Bidder], or..... [Insert name of the TSP] and/or any other person, as the case may be, or to give any notice to Principal Debtor, namely..... [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, 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 the Principal Debtor, namely, [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, as the case may be.

The Surety acknowledges that this Surety Insurance Contract 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 Provided that any such assignment shall be in compliance with the relevant provisions of the Insurance Act 1938

The Surety hereby agrees and acknowledges that the Nodal Agency shall have a right to invoke this Surety Insurance Contract either in part or in full, as it may deem fit. In case of invocation of this Surety Insurance Contract in part, besides making payment for the part of Surety Insurance Contract invoked, surety at the request of nodal agency shall amend the value of Surety Insurance Contract to the extent of balance amount.

The Surety undertakes not to revoke this Surety Contract during its currency, except with the previous express consent of the Nodal Agency in writing and declares and warrants that it has the power to issue this Surety Contract and the undersigned has full powers to do so on behalf of the Surety

In witness where of:

Signature.....

Name:

Power of attorney No/ Employee No. as applicable.:

For:

..... [Insert Name of the Surety-Insurance Company]

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 Insurance Company



Central Transmission Utility of India Limited

**SCHEDULE: 8B
(POI for CPG)**

168 Bhadla Ramgarh Power Transmission Limited

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Transmission Service Agreement
Format for Issuance of Payment on Order Instrument

Dear Sir,

1. Indian Renewable Energy Development Agency Limited ("IREDA")/PFC/REC has sanctioned a non-fund based limit loan of Rs. (Rupees..... Only) to M/s. [Insert name of SPV or selected Bidder] under the Loan Agreement executed on to execute Transmission System Projects.

2. 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] for the purposes of this Payment on Order Instrument ("POI") having been selected to undertake the Transmission Project on the terms and conditions contained in the Transmission Service Agreement dated/ to be executed as per the draft of the Model Transmission Service Agreement provided along with the Request for Proposal („RFP") and other RFP Project Documents, subject to the condition of providing a POI guaranteeing the due performance of the obligations under the Transmission Service Agreement to the Nodal Agency/Central Transmission Utility of India Limited („CTUIL"), the.....[Insert name and address of the non-banking financial institutions(IREDA/PFC/REC) issuing the POI and address of the head office] (hereinafter referred to as "Guarantor") hereby agrees unequivocally, irrevocably, absolutely and unconditionally, without demur, to pay to the Nodal Agency at [Insert Place and Address of the Nodal Agency indicated in Transmission Service Agreement, or to the designated Bank Account of the Nodal Agency, namely] forthwith on demand in writing from the Nodal Agency, or any Officer authorized by it in this behalf, intimated to the Guarantor at the address mentioned above, any amount as may be decided by the Nodal Agency not exceeding Rupees Crores (Rs) only [Insert the amount of Payment on Order Instrument]

3. At the request of.....and on behalf of M/s., [Insert name of SPV or selected Bidder] this Payment on Order Instrument (POI) for an amount of Rs..... (Rupees) is being issued with IREDA/PFC/REC assuming the obligations to remit such amount to CTUIL from the sanctioned loan.

4. This Payment on Order Instrument comes into force immediately and IREDA/PFC/REC confirms that it has sufficient amount out of the sanctioned loan and shall maintain the required amount to pay under this Payment on Order Instrument, during the validity and claim period of this Payment on Order Instrument.

5. This POI has been issued by IREDA/PFC/REC utilizing the credit limit of M/s.....[Insert name of SPV or selected Bidder] IREDA/PFC/REC confirms that its liability to pay under this Payment on Order Instrument shall be primary and independent of whether at the time of invocation of Payment on Order Instrument, the sanctioned funds are available or not and notwithstanding, the status of M/s [Insert name of SPV or selected Bidder] at the relevant time and to whether IREDA/PFC/REC is able to recover the amount advanced by it to the said developer.

6. IREDA/PFC/REC and M/s.[Insert name of SPV or selected Bidder] hereby acknowledges, accepts and confirms that this Payment on Order Instrument shall be a Contract of Guarantee as provided under Section 126 of the Indian Contract Act,

Central Transmission Utility of India Limited 169 Bhadla Ramgarh Power Transmission Limited

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1872 and further shall be covered by Section 14(3)(b) of the Insolvency and Bankruptcy Code, 2016 (as amended) shall be enforceable as such.

7. IREDA/PFC/REC liability under this POI is restricted to Rupees Crores (Rs.....) only. This POI shall remain in force until..... [Insert the date of validity of the POI]. The Nodal Agency shall be entitled to invoke this POI up to three hundred sixty-five (365) days after the last date of the validity of this POI. This POI shall be extended from time to time for such period, as may be desired by the TSP.

8. The Guarantor hereby expressly agrees that it shall not require any proof except for the written demand from the Nodal Agency, raised at the above- mentioned address of the Guarantor (address of Guarantor office should be in NCR only) and the Guarantor shall pay the amount to the Nodal Agency without reference to the TSP.

9. Any such demand made by the Nodal Agency on the Guarantor shall be conclusive and binding notwithstanding any difference between the Nodal Agency and the TSP or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Guarantor undertakes not to revoke this guarantee during its currency without previous consent of the Nodal Agency and further agrees that the POI herein contained shall continue to be enforceable till the Nodal Agency discharges this contract or till the expiry of tenure or (including Claim period) whichever is earlier.

10. The Guarantor shall make payment hereunder within two (02) working days on first demand without restriction or conditions and notwithstanding any objection or disputes raised by the TSP, namely, [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person. The Guarantor shall not require the Nodal Agency to justify the invocation of this POI, nor shall the Guarantor have any recourse against the Nodal Agency in respect of any payment made hereunder.

11. This POI shall be interpreted in accordance with the laws of India.

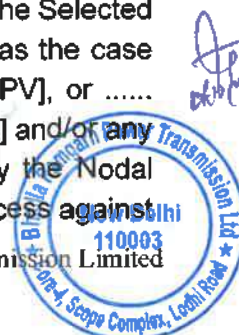
12. The Guarantor represents that this POI Contract has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor in the manner provided herein.

13. This POI 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.

14. This POI Contract shall be a primary obligation of the Guarantor as a Principal to pay on demand by the Nodal Agency and the Nodal Agency shall not be obliged before enforcing this POI Contract to take any action in any court or arbitral proceedings against the TSP, namely, [Insert name of SPV], or..... [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, as the case may be to make any claim against or any demand on the TSP, namely, [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, as the case may be, or to give any notice to TSP, namely..... [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, 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

Central Transmission Utility of India Limited

Bhadla Ramgarh Power Transmission Limited



Transmission Service Agreement

the TSP, namely, [Insert name of SPV], or [Insert name of the Selected Bidder], or [Insert name of the TSP] and/or any other person, as the case may be.

15. The Guarantor acknowledges that this POI Contract 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.

16. The Guarantor hereby agrees and acknowledges that the Nodal Agency shall have a right to invoke this POI Contract either in part or in full, as it may deem fit. In case of invocation of this POI Contract in part, besides making payment for the part of POI Contract invoked, Guarantor at the request of Nodal Agency shall amend the value of POI Contract to the extent of balance amount.

IN WITNESS WHERE OF the non- banking financial institutions through its authorized officer, has set its hand and stamp on this..... day of.....at.....

Signature

Name:

Power of attorney No.:

..... For:

..... [Insert Name of the non- banking financial institutions Company]

Seal and Full Address, including mailing address of the Head Office



Central Transmission Utility of India Limited

[Handwritten signature]

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Bhadla Ramgarh Power Transmission Limited



[Handwritten signature]

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,

ΔT = 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


Bhadla Ramgarh Power Transmission Limited
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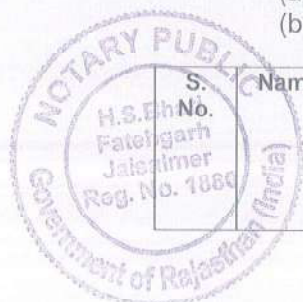


1. Particulars of the Applicant

S. No.	Particulars	Details
1.	Particulars of the Applicant	
i	Name of the Applicant	Bhadla Ramgarh Power Transmission Ltd.
ii	Status: Individual/ Partnership firm/ Private Limited Company/ Public Limited Company	Public Limited Company
iii	Address	B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi 110 016
iv	Name, Designation & Address of the Contact Person	Sh. Surya Prakash Project In-Charge, Bhadla Ramgarh Power Transmission Ltd. (100% wholly owned subsidiary of Power Grid Corporation of India Limited) C/o ED (Commercial & RC), Power Grid Corporation of India Limited, Floor No. 02, Tower-01, IRCON International Tower, Plot No. 16, Institutional Area, Sector-32, Gurgaon-122003
v	Contact Tele. No.	9415311735
vi	Fax No.	0124-2822062
vii	Email ID (s)	regulatory@powergrid.in
viii	Place of Incorporation / Registration	New Delhi, India
ix	Year of Incorporation / Registration	2026
x	Following documents are to be enclosed:	
a.	Certificate of Registration	Enclosed as Annexure-6
b.	Copy of Power of Attorney of the signatory to commit the Applicant or its promoter	Enclosed as Annexure-16

2. Particulars of the Project for which license/ Amendment in license (list of existing elements and proposed addition/ deletion element in case) is being sought:

- (a) Transmission Lines: Nil
(b) Sub-stations:



S. No.	Name (location)	Voltage Level(s) (kV)	Transformer (Nos. & MVA Capacity)	Reactive/ Capacitive compensation (device with MVAR capacity)	No of Bays	Remarks

SIGNATURE / ATTESTED

 (H.S. Bhati)
 Notary Fatehgarh, Jaisalmer

1	765/400/220kV Bhadla-III PS	400kV & 220kV	500MVA, 400/220kV ICT – 5 Nos (4 Nos ICTs in 220kV Sec-2 (6 th to 9 th) and 1 No. ICT in 220kV Sec-1 (10 th))	NIL	- For 400/220kV ICTs 400kV ICT bay – 5 Nos. 220kV ICT bay – 4 Nos. 220kV ICT (GIS) bay – 1 No. (for 10th ICT) 220kV GIS bus duct/ Cable for interconnection of 220kV side of ICT (10th) to 220kV GIS bay (Section-1) 220kV line bay – 5 Nos 400kV line bay – 1 No. 400kV sectionalizer bay – 2 sets
2	765/400/220kV Ramgarh PS	765kV, 400kV & 220kV	1500MVA, 765/400kV ICT – 2Nos. 500MVA, 400/220kV ICT – 2Nos.	NIL	- For 765/400kV ICTs 765kV ICT bay – 2 Nos. 400kV ICT bay – 2 Nos. - For 400/220kV ICTs 400kV ICT bay – 2 Nos. 220kV ICT bay – 2 Nos. 220kV line bay – 2 Nos. 400kV line bay – 1 No.
3	765/400kV Kanpur (PG)	765kV & 400kV	1500MVA, 765/400kV ICT – 1 No	NIL	- For 765/400kV ICT 765kV ICT bay (GIS) including completion of diameter.



SIGNATURE / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

(Signature)

					• 400kV ICT bay (GIS) in existing spare bay • All associated GIS duct with terminations.	
--	--	--	--	--	---	--

a) Remarks: Status whether the element is existing or proposed to be added or deleted.

- **Application is being filed for grant of a fresh license for addition of elements**

b) Scheduled COD: 20.01.2029 (matching with timeframe of Transmission System for Evacuation of Power from REZ in Rajasthan (20 GW) under Phase III – Part I scheme (Pole 1)).

c) Agreements with Identified Long-term transmission Customer or CTU for the Project, as applicable: CTU as Nodal Agency for the Project & Transmission Service Agreement (TSA) executed with CTUIL is enclosed as **Annexure-14** to the instant petition.

3. **Quoted Transmission Charges in case of the project selected through the guidelines of competitive bidding and estimated completion cost of the project in other cases:**

: Transmission charges Rs. **1,193.45** Million per annum

4. In case applicant has been selected in accordance with the competitive bidding guidelines, enclose:

(a) Approval of Central Government as per Electricity (Transmission System Planning, Development and Recovery of Inter-state Transmission Charges) Rules, 2021

(b) Evaluation report (if made public) by the Bid Process Coordinator

Copy of Gazette Notification is enclosed as **Annexure-2** to the petition

Certificate of Bid Evaluation Committee as furnished by BPC is enclosed **Annexure-9** to the petition



SIGNATURE / ATTESTED

(Signature)
Notary Fatehgarh, Jaisalmer

(Signature)

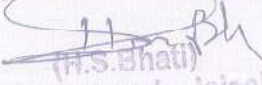
5. List of documents enclosed:

- a. Certificate of Registration, MoA & AoA
- b. Certificate of Bid Evaluation Committee as furnished by BPC
- c. Copy of Power of Attorney

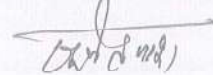
**SURYA
PRAKASH**

Digitally signed by
SURYA PRAKASH
Date: 2026.08.05
23:39:56 +05'30'

SIGNATURE / ATTESTED


(H.S. Bhatil)
Notary Fatehgarh, Jaisalmer

Signature of the Applicant



Represented by **Sh. Surya Prakash**
Project In-charge
Bhadla Ramgarh Power Transmission Ltd.





सत्यमेव जयते

INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

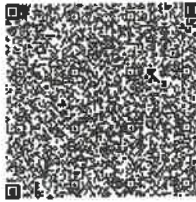
₹100

e-Stamp

Certificate No.	: IN-DL62594281142766Y
Certificate Issued Date	: 27-Jul-2026 03:35 PM
Account Reference	: IMPACC (IV)/ dl1074803/ DELHI/ DL-SWD
Unique Doc. Reference	: SUBIN-DL DL107480330977814822394Y
Purchased by	: BHADLA RAMGARH POWER TRANSMISSION LIMITED
Description of Document	: Article Others
Property Description	: Not Applicable
Consideration Price (Rs.)	: 0 (Zero)
First Party	: BHADLA RAMGARH POWER TRANSMISSION LIMITED
Second Party	: Not Applicable
Stamp Duty Paid By	: BHADLA RAMGARH POWER TRANSMISSION LIMITED
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)

सत्यमेव जयते

₹100



Please write or type below this line

IN-DL62594231142766Y

General Power of Attorney

Know all men by these presents, we **Bhadla Ramgarh Power Transmission Limited** (hereinafter referred to as BRPTL which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, and assigns) having its Registered Office at B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi – 110 016 do hereby constitute, appoint and authorize **Shri Surya Prakash**, Project Incharge of BRPTL residing at 17- Bari Co-operative Colony, Bokaro Steel city, Distt.-Bokaro, Jharkhand - 827012 as our true and lawful attorney, to do in our name and our behalf, all of the acts or things hereinafter mentioned, that is to say:-

Statutory Alert:

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.

PP

[Signature]

1. To constitute, and defend legal cases, sign and verify complaints, written statements, petitions and objections, memorandum of appeal, claims, affidavits, applications, re-applications and pleadings of all kinds and to file them in Central Electricity Regulatory Commission (CERC), State Electricity Regulatory Commissions (SERCs), Appellate Tribunal for Electricity (ATE), Civil, Criminal or Revenue courts, Arbitration, Labour Court, Industrial Tribunal, High Court and Supreme Court, whether having original or appellate jurisdiction and before Government or Local Authorities or Registration Authorities, Tax Authorities, Tribunals, etc.
2. To appear, before various Courts / Tribunals / CERC / SERCs / Appellate Tribunal for Electricity.
3. To appoint any Advocate, Vakil, Pleader, Solicitor or any other legal practitioner as Attorney to appear and conduct case proceedings on behalf of the company and to sign Vakalatnama.
4. To compromise, compound or withdraw cases from any Court / Tribunal / CERC / SERCs / Appellate Tribunal for Electricity.
5. To file petitions/applications or affidavits before the Supreme Court / High Court / CERC / SERCs / Appellate Tribunal for Electricity and to obtain the copies of documents, papers, records etc.
6. To file and receive back documents, to deposit and withdraw money from Courts, Tribunal, Registrar's Office and other Government or Local Authorities and to issue valid receipts thereof.
7. To apply for and obtain refund of stamp duty or court fee, etc.
8. To issue notices and accept service of any summons, notices or orders issued by any Court / Tribunal / CERC / SERCs / Appellate Tribunal for Electricity on behalf of the Company.
9. To execute deeds, agreements, bonds and other documents and returns in connection with the affairs of the company and file them or cause to be filed for Registration, whenever necessary.
10. To issue Project Authority Certificate(s) in respect of contracts for Load Despatch & Communication Systems, Transmission Systems etc. and to lodge claims with the Railways, Transporters, Shipping Agents and Clearing Agents and to settle/compromise such claims.
11. To lodge claims with the Insurance companies, to settle/compromise such claims and on satisfactory settlement thereof, to issue letters of subrogation/power of attorney in favour of Insurance companies.
12. To execute, sign and file applications, undertakings, agreements etc. to or with the Central / State Government(s) / Body(ies) to obtain 'right of way' or any of other Right(s) / Privilege(s) etc.
13. To execute, sign and file applications, undertakings, agreements, bills, documents etc. to or with the Central / State Government(s) / Body(ies) and other authorities / entities including Central Transmission Utility (CTU)/Power System Operation Corporation Limited (POSOCO) / Central Electricity Authority (CEA)/ CERC with respect to Commissioning



of the Project, realization of Transmission charges, to obtain 'right of way' or any of other Right(s) / Privilege(s) etc.

14. To execute Transmission Service Agreement (TSA) with Central Transmission Utility of India Limited (CTUIL)
15. To execute Consultancy, Funding and other Agreements.
16. To act as administrator for e-filing process with CERC and other Statutory authorities.
17. Generally to do all lawful acts, necessary for the above mentioned purposes.

The Company hereby agrees to ratify and confirm all and whatsoever the said Attorney shall lawfully do execute or perform or cause to be done, executed or performed in exercise of the power or authority conferred under and by virtue of this Power of Attorney.

pp

Signed by the within named

Bhadla Ramgarh Power Transmission Limited

through the hand of

Duly authorized by the Board to issue such Power of Attorney

Dated this 29th day of July, 2026

Accepted

Signature of Attorney

Name: Shri Surya Prakash

Designation: Project Incharge, Bhadla Ramgarh Power Transmission Limited

Address: 17- Bari Co-operative Colony, Bokaro Steel City, Distt.-Bokaro, Jharkhand- 827012

Attested

(Signature of the Executant)

Name: PANKAJ PANDEY

Designation: CHAIRMAN

Address: B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi - 110 016

Signature and Stamp of Notary of the place of execution

WITNESS

ATTESTED
NOTARY PUBLIC
DELHI

29 JUL 2026



Form-I (as per Payment of Fee Regulation, 2012)

	Particulars	
1	Name of the Petitioner/ Applicant	Bhadla Ramgarh Power Transmission Limited (A 100% wholly owned subsidiary of Power Grid Corporation of India Limited)
2	Address of the Petitioner/Applicant	Regd. Address: B-9, Qutab Institutional Area, Katwaria Sarai, New Delhi 110 016 Address for correspondence: ED (Commercial & RC), Power Grid Corporation of India Limited, Floor No. 02, Tower-01, IRCON International Tower, Plot No. 16, Institutional Area, Sector-32, Gurgaon-122003
3	Subject Matter	Petition under Section 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, 2024 with respect to Transmission License to Bhadla Ramgarh Power Transmission Ltd. (a 100% wholly owned subsidiary of Power Grid Corporation of India Limited)
4	Petition No., if any	Not yet received Ref. No.
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 transmission line/sub-station/	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	Assets under implementation by Bhadla Ramgarh Power Transmission Limited
7	Fee paid for Adoption of tariff for (a) Generation asset (b) Transmission asset	No No
8	Application Fee for License (a) Trading License	No



SIGNATURE / ATTESTED

 (H.S. Bhadi)
 Notary Fatehgarh, Jaisalmer

	(b) Transmission License (c) Period for which paid (d) Amount of fee paid	Yes Rs 1,00,000/-
9	Fees paid for Miscellaneous Application	Not Applicable
10	Fees paid for Interlocutory Application	Not Applicable
11	Fee paid for Regulatory Compliance	Not Applicable
12	Fee 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	
15	Annual Registration Charge for Power (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	CMS/001987980844/2400201259 05-08-2026 Rs1,00,000/-
Note: While S. No 1 to 3 are compulsory, the rest may be filled up as applicable		
Signature of the authorized Signatory with date		



SIGNATORY / ATTESTED

(H.S. Bhati)
Notary Fatehgarh, Jaisalmer

**SURYA
PRAKASH
H**

(Surya Prakash)

Digitally signed
by SURYA
PRAKASH
Date: 2026.08.05
23:34:16 +05'30'